



J R C T E C H N I C A L R E P O R T S

Revision of European Ecolabel Criteria for laundry detergents, dishwasher detergents, industrial and institutional automatic dishwasher detergents, industrial and institutional laundry detergents, hand dishwashing detergents and all-purpose cleaners and sanitary cleaners

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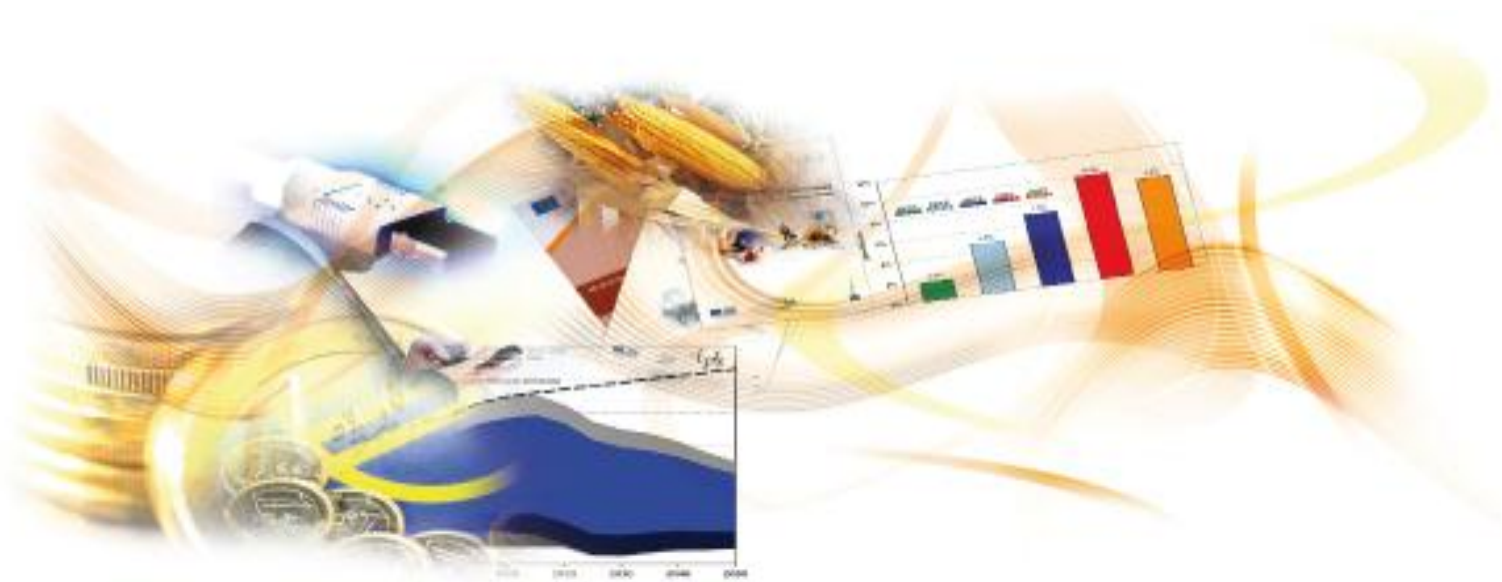
The following document contains the six Technical Reports and the Technical Annexe published in preparation for the 1st Ad Hoc Working Group meeting for the revision of the EU Ecolabels related to detergents. The main goal of this HTML version of the documents is to be used for commenting on the BATIS platform. Each report can also be found in PDF format on the BATIS platform as well as on the project's website (<http://susproc.jrc.ec.europa.eu/detergents/stakeholders.html>).

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1 LAUNDRY DETERGENTS

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1.1 Introduction

The following Technical Report presents a proposal of revised EU Ecolabel criteria for the product group of "laundry detergents" (LD). The study has been carried out by the Joint Research Centre's Institute for Prospective Technological Studies (JRC-IPTS) with technical support from Oakdene Hollins and PRé Consultants. The work is being developed for the European Commission's Directorate General for the Environment.

The recommendations for the revision of the current criteria are based on technical analysis, including a Life Cycle Assessment (LCA) assessing the environmental impacts of products covered by the scope of the product group and other scientific sources, and input received from stakeholders.

This document is complemented by the Preliminary Report¹ on the revision of the European Ecolabel criteria for laundry detergents: domestic and industrial and institutional and a Technical Annexe. The Preliminary Report covers in detail areas such as: scope and legislative analysis (Task 1), market analysis (Task 2), technical analysis (Task 3) and improvement potential (Task 4). The Technical Annexe is common to all detergent product groups as they share common issues and the revisions of their EU Ecolabel criteria are being done at the same time in order to facilitate harmonisation between criteria, where appropriate.

In all, there are six sets of EU Ecolabel criteria in the detergent product groups. These are:

- laundry detergents (LD),
- industrial and institutional laundry detergents (IILD),
- detergents for dishwashers (DD),
- industrial and institutional automatic dishwasher detergents (IIDDD),
- hand dishwashing detergents (HDD),
- all-purpose cleaners and sanitary cleaners (APC).

The present document is specific to the set of criteria related to the EU Ecolabel for laundry detergents. Its main purpose is to summarise the proposed criteria changes as well as provide a brief overview of background information related to each criterion and the rationale behind the proposal. Where these are common for different EU Ecolabel product groups and/or are due to harmonisation efforts, reference is made to a section of the Technical Annexe. Both documents, as well as the Preliminary Report, should be consulted to gain a full understanding of this revision process.

It should be noted that the EU Ecolabel criteria for industrial and institutional laundry detergents (IILDD) are being revised in parallel. Due to the similarities in criteria, chemical constituents of the products involved and the overlap of stakeholders, a common Preliminary Report has been written. However, a separate Technical Report has been produced for each EU Ecolabel under revision. Nevertheless, as harmonisation of criteria across product groups is within the scope of this work, the rationale and commentary of the Technical Reports frequently compares and contrasts current criteria corresponding to the other detergent products being revised.

A revision of the criteria must ensure that, based on impacts of the products covered by the EU Ecolabel for "laundry detergents" at all life-cycle stages:

- The existing criteria are still relevant and that appropriately challenging targets, thresholds or usage information are established based on the latest knowledge of market norms, user behaviours, life-cycle impacts and hazards.
- Any new candidates for criteria suggested by either the LCA or the stakeholder survey are adequately considered and evaluation criteria justified.
- Opportunities to rationalise criteria, i.e. remove, simplify and combine (within the group) or harmonise (between product groups), are examined and justified.

The main criteria changes proposed in this report are as follows:

- A change of the name of the EU Ecolabel to "consumer laundry detergents" in order to bring harmonization among the terms used in the definitions included in the revised EU

¹ <http://susproc.jrc.ec.europa.eu/detergents/stakeholders.html>

Ecolabel criteria for detergent product groups and those included in relevant regulations.

- An update of several criteria with revised values and new values for categories of products that are not covered in the current criteria.

1.2 Preliminary report – summary and links to the EU Ecolabel criteria revision and development

The Preliminary Report presents the research carried out, through stakeholder surveys, market analysis, legal review and an environmental performance investigation, on areas related to the product groups covered by the EU Ecolabel on laundry detergents. The preliminary report is a document that provides the background information and underpins the new criteria proposal for two product groups: laundry detergents and industrial and institutional laundry detergents, due to their multiple overlaps.

The main findings of the Preliminary Report are:

-The *legal review* revealed that the 2012 Revision to the EU Detergents Regulation (EU/259/2012)² will impact on the consumer laundry detergents on the market. The revision limits the use of phosphates and phosphorus compounds and lays down requirements for dosage information. The revision of the EU Ecolabel criteria shall take into account these changes to the Detergents Regulation.

-The *market analysis* revealed that the laundry detergent market in Europe is dominated by a few well-known brands, including Procter & Gamble, Henkel and Unilever. Laundry detergents are available in a range of formats, but liquid laundry detergents account for the largest market share in Europe, closely followed by powder laundry detergents. Market trends show that sustainability is of growing importance to consumers of laundry detergents, with an increase in concentrated/compacted products, use of plant-based ingredients and minimisation of packaging.

-The *technical analysis* revealed that the key environmental impacts associated with the product group can be summarised as follows:

- The life cycle stage with the largest contribution to the environmental impact profile of laundry detergents is the use phase, particularly the energy needed to heat the water for the wash cycle. For some impact categories, the sourcing of raw materials is also important.
- Based on the normalisation assessment, the most significant impact categories for laundry detergents in Europe are Freshwater Eutrophication, Human Toxicity, Freshwater Ecotoxicity, Marine Ecotoxicity, and Natural Land Transformation.

The results of the LCA for a powder laundry detergent conducted as part of the technical analysis are shown in Figure 1.

² EC Regulation 648/2004 of The European Parliament and of The Council of 31 March 2004 on detergents. Available from: http://ec.europa.eu/enterprise/sectors/chemicals/documents/specific-chemicals/detergents/index_en.htm

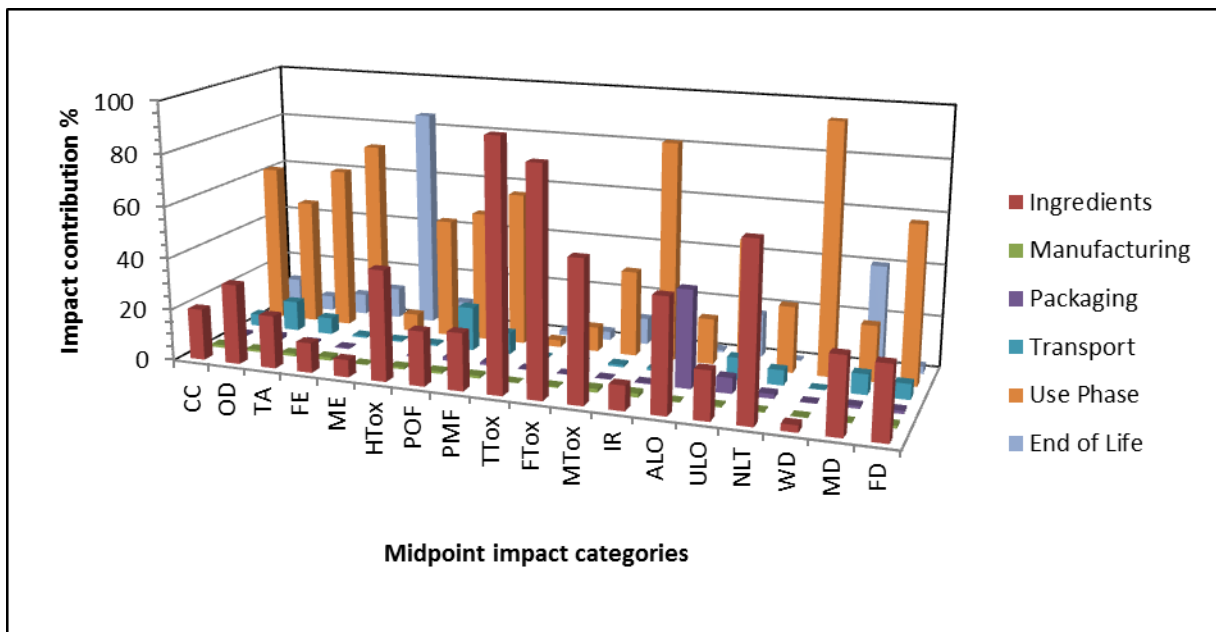


Figure 1: Impact contribution of different life cycle stages of a laundry detergent

These impacts are strongly correlated to each other via the energy use in the use phase (with the exception of natural land transformation). The use phase dominates the impact categories freshwater eutrophication, human toxicity, and marine ecotoxicity, and ingredients sourcing dominates the freshwater ecotoxicity and natural land transformation.

The key environmental performance indicators (KPIs), i.e. those variables that mainly drive the results for laundry detergents in Europe, based on the results of this study are (not ranked):

- Wash temperature,
- Amount of product used per application,
- Choice of and amount of surfactant (although there are trade-offs between impact categories),
- Energy source used to heat the water,
- Emissions to water.

Apart from the LCA analysis, a revision of other scientific evidences, current national schemes and legislation have been performed. These sources of information pointed out the potential presence of hazardous substances in the product that can have environmental and health impacts, and these are addressed according to Articles 6.6 and 6.7 of the Regulation EC/66/2010 on the EU Ecolabel³.

This document shows the process and the evidences to draft the EU Ecolabel criteria that tackle the mentioned main environmental impacts identified through the LCA analysis and the non-LCA impacts identified by revising other sources. The EU Ecolabel criteria are developed to directly or indirectly address the identified LCA and non-LCA impacts (e.g., the choice and amount of surfactants is an environmental impact directly addressed through one or several EU Ecolabel criteria while the amount of detergent is indirectly addressed). The "energy source used to heat the water" is the only environmental impact that cannot be addressed through the EU Ecolabel as it is not directly linked to the products; even when consumers can choose the source of energy to heat the water or an electricity provider with a share of renewable energies, this is something out of the scope of what can be promoted through a product environmental label. Moreover, even though waste generation was not among the top 5 KPIs, it can still have an impact of up to 36% for some environmental

³ Regulation (EC) No 66/2010 of the European Parliament and of the Council of November 25 2009 on the EU Ecolabel

aspects. Given the prevalence of laundry detergents in everyday life and the fact that they all come with packaging, a relatively small impact can quickly add up; thus, this aspect is also considered in the EU Ecolabel.

Table 1 shows the link between the LCA and non-LCA impacts identified in the Preliminary Report and the revised or newly developed EU Ecolabel criteria.

Table 1: Link between the hotspots identified (LCA and non-LCA impacts) and the revised EU Ecolabel criteria

Identified hotspots (LCA and non-LCA impacts)	% of total impact ⁴	Revised or new EU Ecolabel criteria	Comments on the related criteria
Wash temperature	3-96%	User information	The criterion encourages users to opt for lower water temperatures.
		Fitness for use	It ensures that the product is fit to wash at low temperatures (15-30C depending on the product).
		Information appearing on the EU Ecolabel	It informs consumers that the product's performance has been tested, even at low temperatures.
Energy sources to heat up the water	3-96%	--	Out of the scope of this policy tool
Amount of product used per application	3-95 %	User information	It informs users about the amount of product to be used depending on the washing conditions.
		Dosage requirement	This criterion limits the amount of product that manufacturers can recommend to users.
Choice and amount of surfactants	3-95 %	Biodegradability	It ensures that surfactants are biodegradable and will not persist in water.
		Restricted substances	It ensures that hazardous surfactants are not included in the bill of materials.
		Phosphorus content	It ensures that limited and restricted types of phosphorus compounds are not included as ingredients.
		Sustainable Palm oil	It ensures that renewable palm oil surfactants do not cause unnecessary strain on the ecosystem.
Emissions to water	3-95 %	Toxicity to aquatic organisms	It ensures that the sum of the ingredients is not toxic to the aquatic organisms.
		Biodegradability	It ensures that ingredients are not persistent in the water.
		Phosphorus content	It ensures that eutrophication due to phosphorus is limited.
		Restricted substances	It ensures that hazardous substances do not reach water ways.
		Colorants	It ensures that colorants do not accumulate in the water.
		Fragrances	It ensures that only a limited amount of ingredients with sensitizing properties is used.
		Enzymes	It ensures that enzymes cannot be inhaled, limiting health risks for users.

⁴ Information provided in Chapter 5 of the Preliminary Report, although aggregated in a different way, available at: <http://susproc.jrc.ec.europa.eu/detergents/stakeholders.html>

Identified hotspots (LCA and non-LCA impacts)	% of total impact ⁴	Revised or new EU Ecolabel criteria	Comments on the related criteria
		Information appearing on the EU Ecolabel	It informs consumers that the product contains a limited amount of hazardous substances while they are making purchase decisions.
Waste generation	0-37%	Packaging	It ensures that a limited amount of waste will be generated and that this waste can be recycled.
		User information	It reminds consumers to dispose of the packaging in a responsible manner.
Water consumption	Not rated	User information	The criterion encourages users to opt for full wash loads. It provides information to the users on how to get the most out of the product while lowering the damage to the environment.
Hazardous substances	Not rated	Hazardous substances and mixtures	This criterion limits the hazardous substances and mixtures that can be included in the product, limiting environmental and health risks for consumers.
		Ingoing substances listed in accordance with Article 59(1) of Regulation (EC) No 1907/2006	
		Information appearing on the EU Ecolabel	It informs consumers that the product has a limited amount of hazardous substances, in order to encourage the purchase of the product.

1.3 Summary of the feedback requested from stakeholders

LAUNDRY DETERGENTS		
CRITERION / SECTION	QUESTIONS	
Name, definition and scope	1	Should fabric softeners be excluded or included in the scope of the EU Ecolabel?
Reference dosage	1	Are separate dosage requirements needed for concentrated products? Or should concentrated products be encouraged by setting strict dosage limits?
	2	Is the limit proposed for fabric softeners sufficient?
	3	Are the new proposed limits too strict? If yes please provide evidence.
Toxicity to aquatic organisms	1	Should the CDV values be stricter?
	2	Are different CDV values required liquid and powder detergents?
	3	Is the CDV value for fabric softeners sufficient?
Biodegradability	1	Is the proposed approach on biodegradability suitable for consumer laundry detergents?
	2	What would be the appropriate limits for aNBO and anNBO? Could stakeholders please share with the project team data on the amount of aNBO and anNBO organic substances and mixtures in the product groups covered?
Excluded or limited substances and mixtures	1	Do you agree with the exclusion for APEO and APD substances required from this product group?
	2	Are exclusions required for other substances?
Derogations	1	Do you have information which could substantiate keeping/removing the current derogations.
Preservatives	1	Do you agree with the changes proposed to requirement on preservatives?
Colorants, enzymes	1	Do you agree with the proposed requirements on colorants and enzymes?
Packaging requirements	1	Packaging is not one of the top 5 KPIs for laundry detergents, should a criterion related to it be kept?
	2	Are the WUR limits appropriate?
	3	Is the design for recycling requirement suitable for this product group?
Fitness for use	1	Is a requirement on washing performance at low temperatures a suitable way of targeting the impacts related to washing water temperature?
	2	Are any other changes required for this criterion?
Points	1	Do you agree with the removal of the points system?
	2	Are there any other requirements which can be used to encourage the use of lower temperature wash cycles?
Consumer information	1	Is the change to the wash temperature recommendation acceptable?
	2	Is a statement on overdosing required as part of the consumer information criterion?
	3	Is the change to the dosage instruction wording acceptable?
	4	Should recycling labels be included on laundry detergent packaging?
	5	Should the requirement for the applicant to include a recommendation on washing temperature in case of allergies and infectious diseases be kept in the criterion text?
Information appearing on the EU Ecolabel	1	Are the proposed statements suitable?

1.4 Criteria structure comparison table

STRUCTURE OF THE CRITERIA	
Current organisation of the EU Ecolabel criteria	Potential changes, modifications or amendments
Criterion 1: Dosage requirements Criterion 2: Toxicity to aquatic organisms: Critical Dilution Volume (CDV) Criterion 3: Biodegradability of organics Criterion 4: Excluded or limited substances and mixtures Criterion 5: Packaging requirements Criterion 6: Washing performance (fitness for use) Criterion 7: Points Criterion 8: Consumer information Criterion 9: Information appearing on the EU Ecolabel	Criterion 1: Dosage requirements Criterion 2: Toxicity to aquatic organisms Criterion 3: Biodegradability Criterion 4: Sustainable sourcing of palm oil, etc. Criterion 5: Restricted substances Criterion 6: Packaging Criterion 7: Fitness for use Criterion 8: Points (if kept) Criterion 9: User information Criterion 10: Information appearing on the EU Ecolabel
	The proposed changes to the structure reflect the fact that certain criteria are proposed to be merged and an additional criterion is proposed to cover sustainable sourcing of certain ingredients.

1.5 Name and definition comparison table

NAME OF THE EU ECOLABEL	
Current name of the EU Ecolabel	Potential changes, modifications or amendments
Landry detergents	Consumer laundry detergents
	The proposed name is in line with the name used in the Detergents Regulation and provides more clarity on the fact that only consumer products are covered.
DEFINITION OF THE PRODUCT GROUP	
<p>The product group 'Laundry Detergents' shall comprise: laundry detergents and pre-treatment stain removers whether in powder, liquid or any other form which are marketed and used for the washing of textiles principally in household machines but not excluding their use in laundrettes and common laundries.</p> <p>Pre-treatment stain removers include stain removers used for direct spot treatment of textiles (before washing in the machine) but do not include stain removers dosed in the washing machine and stain removers dedicated to other uses besides pre-treatment.</p> <p>This product group shall not comprise products that are dosed by carriers such as sheets, cloths or other materials nor washing auxiliaries used without subsequent washing such as stain removers for carpets and furniture upholstery.</p>	<p>The product group 'consumer laundry detergents' shall comprise: laundry detergents and pre-treatment stain removers which are marketed and used for the washing of textiles principally in domestic machines but not excluding their use in laundrettes and common laundries.</p> <p>Pre-treatment stain removers include stain removers used for direct spot treatment of textiles (before washing in the machine) but do not include stain removers dosed in the washing machine and stain removers dedicated to other uses besides pre-treatment.</p> <p>This product group shall not comprise products that are dosed by carriers such as sheets, cloths or other materials nor washing auxiliaries used without subsequent washing such as stain removers for carpets and furniture upholstery.</p>
	The proposed change would limit the number of terms that refer to consumer/domestic/household products and their uses. This would bring higher harmonisation among the EU Ecolabel criteria sets, as well as the Detergents Regulation.

1.6 Comparison of existing and proposed criteria

CRITERIA																										
Existing EU Ecolabel criteria	Potential changes, modifications or amendments																									
Criterion 1: Dosage requirements																										
<p>The dosage shall not exceed the following amounts:</p> <table border="1"> <thead> <tr> <th>Product type</th> <th>powder/tablet</th> <th>liquid/gel</th> </tr> </thead> <tbody> <tr> <td>Heavy-duty laundry detergent, colour-safe detergent</td> <td>17.0 g/kg wash</td> <td>17.0 ml/kg wash</td> </tr> <tr> <td>Low-duty detergent</td> <td>17.0 g/kg wash</td> <td>17.0 ml/kg wash</td> </tr> <tr> <td>Stain remover (pre-treatment only)</td> <td>2.7 g/kg wash</td> <td>2.7 ml/kg wash</td> </tr> </tbody> </table> <p>(*) Estimated average dose to be used in CDV calculations. Actual dosing will depend on number of stains in any given wash-load. The estimated dose is based on a dosage of 2 ml per application and 6 applications per wash-load of 4,5 kg (liquid stain remover).</p> <p>If recommendations for both prewash and subsequent wash apply, the total recommended dosage (prewash + subsequent wash) shall comply with the maximum dosage level.</p> <p>Assessment and verification: Full formulation of the product, label or artwork including dosage instructions. The density (g/ml) shall be stated for all products (either on the packaging or in a Safety Data Sheet).</p>	Product type	powder/tablet	liquid/gel	Heavy-duty laundry detergent, colour-safe detergent	17.0 g/kg wash	17.0 ml/kg wash	Low-duty detergent	17.0 g/kg wash	17.0 ml/kg wash	Stain remover (pre-treatment only)	2.7 g/kg wash	2.7 ml/kg wash	<p>The reference dosage shall not exceed the following amounts:</p> <table border="1"> <thead> <tr> <th>Product type</th> <th>Dosage, powder/tablet</th> <th>Dosage, liquid/gel</th> </tr> </thead> <tbody> <tr> <td>Heavy-duty laundry detergent, colour-safe detergent</td> <td>16 g/kg laundry</td> <td>14 ml/kg laundry</td> </tr> <tr> <td>Low-duty detergent</td> <td>10 g/kg laundry</td> <td>10 ml/kg laundry</td> </tr> <tr> <td>Stain remover (pre-treatment only)</td> <td>2,7 g/kg laundry</td> <td>2,7 ml/kg laundry</td> </tr> </tbody> </table> <p>Assessment and verification: Full formulation of the product, label or artwork including dosage instructions shall be provided. The density (g/ml) shall be stated for all products (either on the packaging or in a Safety Data Sheet).</p>		Product type	Dosage, powder/tablet	Dosage, liquid/gel	Heavy-duty laundry detergent, colour-safe detergent	16 g/kg laundry	14 ml/kg laundry	Low-duty detergent	10 g/kg laundry	10 ml/kg laundry	Stain remover (pre-treatment only)	2,7 g/kg laundry	2,7 ml/kg laundry
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Stain remover (pre-treatment only)	2,7 g/kg laundry	2,7 ml/kg laundry																								
	<p>The proposed change of dosage for heavy-duty and low-duty detergents is based on the review of dosages for EU Ecolabel laundry detergent products, which revealed that the average doses recommended for existing products are below the current thresholds. No change is proposed for stain remover dosages as no data was obtained in the consultation.</p>																									

Criterion 2: Toxicity to aquatic organisms: Critical Dilution Volume (CDV)

The critical dilution volume of the product must not exceed the following limits (CDV_{chronic}):

Product type	CDV _{chronic}
Heavy-duty laundry detergent, colour-safe detergent	35,000 l/kg wash
Low-duty detergent	20,000 l/kg wash
Stain remover (pre-treatment only)	3,500 l/kg wash (*)

(*) CDV limit based on an estimated dosage of 2 ml per application and 6 applications per wash-load of 4,5 kg for a liquid stain remover. Products dosed as, e.g. powder or paste shall comply with the same CDV limit.

The critical dilution volume toxicity (CDV chronic) is calculated for all ingredients (i) in the product using the following equation:

$$CDV_{chronic} = \sum CDV_{(i)} = \sum \text{weight}_{(i)} \times DF_{(i)} / TF_{chronic(i)} \times 1000$$

where

weight (i) = the weight of the ingredient per recommended dose

DF = the degradation factor

TF = the chronic toxicity factor of the substance as stated in the DID list.

Preservatives, colouring agents and fragrances present in the product shall also be included in the CDV calculation even if the concentration is lower than 0,010 % (100 ppm).

Assessment and verification: Calculation of the CDV chronic of the product. A spreadsheet for calculation of the CDV value is available on the EU Ecolabel website.

The values of the DF and TF parameters shall be as given in the Detergent Ingredient Database list (DID list). If the substance is not found on the DID list, the parameters shall be calculated using the guidelines in part B of the DID list and attaching the associated documentation.

The critical dilution volume (CDV) of the product must not exceed the following limits for the reference dosage:

Product type	Limit CDV
Heavy-duty laundry detergent, colour-safe detergent	32 000 l/kg laundry
Low-duty detergent	20 000 l/kg laundry
Stain remover (pre-treatment only)	3 500 l/kg laundry

Assessment and verification: Calculation of the CDV of the product. A spreadsheet for calculation of the CDV value is available on the EU Ecolabel website.

The Critical Dilution Volume (CDV) is calculated for all ingoing substances and mixtures (i) in the product using the following equation:

$$CDV = \sum CDV_{(i)} = 1000 \cdot \sum \text{dosage}_{(i)} \cdot \frac{DF_{(i)}}{TF_{(i)}}$$

Where:

dosage(i): weight (g) of the substance or mixture *i* in the reference dose,

DF(i): degradation factor for the substance or mixture *i*

TF(i): toxicity factor for the substance or mixture *i*

The values of *DF(i)* and *TF(i)* shall be as given in the DID list Part A (Appendix I⁵ – to be added). If a substance or mixture is not included in the DID list Part A, the applicant shall estimate the values follow the approach described in the DID list Part B (Appendix I – to be added).

Based on the review of CDV values for existing products, it is proposed to lower the threshold for heavy-duty laundry detergents and colour-safe detergents and to keep the existing thresholds for the other categories.

⁵ The "Appendix" referred to in the criteria text is the Appendix found at the end of EU Ecolabel criteria and has not been formulated as of the writing of this report. It does not refer to the Appendixes found at the end of this Technical Report.

Criterion 3: Biodegradability of organics

The content of organic substances in the product that are aerobically non-biodegradable (not readily biodegradable aNBO) or anaerobically non-biodegradable (anNBO) shall not exceed the following limits:

aNBO:

Product type	aNBO, powder	aNBO, liquid
Heavy-duty laundry detergent, colour-safe detergent	1.0 g/kg wash	0.55 g/kg wash
Low-duty detergent	0.55 g/kg wash	0.30 g/kg wash
Stain remover (pre-treatment only) (*)	0.10 g/kg wash	0.10 g/kg wash

(*) aNBO limit based on an estimated dosage of 2 ml per application and 6 applications per wash-load of 4.5 kg for a liquid stain remover.

For anaerobically non-biodegradable organics (anNBO):

Product type	anNBO, powder	anNBO, liquid
Heavy-duty laundry detergent, colour-safe detergent	1.3 g/kg wash	0.70 g/kg wash
Low-duty detergent	0.55 g/kg wash	0.30 g/kg wash
Stain remover (pre-treatment only) (*)	0.10 g/kg wash	0.10 g/kg wash

(*) anNBO limit based on an estimated dosage of 2 ml per application and 6 applications per wash-load of 4.5 kg for a liquid stain remover.

Assessment and verification: Calculation of aNBO and anNBO for the product. A spreadsheet for use in calculating aNBO and anNBO values is available on the EU Ecolabel website.

Refer to the DID list. For ingredients which are not included in the DID list, the relevant information from literature or other sources, or appropriate test results, showing that they are aerobically and anaerobically biodegradable shall be provided. See Appendix I.

a) Biodegradability of surfactants

To be discussed at the 1st AHWG meeting.

All surfactants shall be biodegradable under aerobic conditions.

All surfactants shall be biodegradable under anaerobic conditions.

b) Biodegradability of organic substances and mixtures

To be discussed at the 1st AHWG meeting.

The content of organic substances and mixtures in the product that are aerobically non-biodegradable (not readily biodegradable aNBO) or anaerobically non-biodegradable (anNBO) shall not exceed the following limits for the reference dosage:

aNBO

Product type	aNBO, powder	aNBO, liquid
Heavy-duty laundry detergent, colour-safe detergent	1,0 g/kg wash	0,55 g/kg wash
Low-duty detergent	0.55 g/kg wash	0.30 g/kg wash
Stain remover (pre-treatment only)	0.10 g/kg wash	0.10 g/kg wash

anNBO

Product type	anNBO, powder	anNBO, liquid
Heavy-duty laundry detergent, colour-safe detergent	1,3 g/kg wash	0,70 g/kg wash
Low-duty detergent	0,55 g/kg wash	0,30 g/kg wash
Stain remover (pre-treatment only)	0,10 g/kg wash	0,10 g/kg wash

Assessment and verification: The applicant shall provide documentation for the degradability of surfactants, as well as the calculations of aNBO and anNBO for the product. A spreadsheet for use in calculating aNBO and anNBO values is available on the EU Ecolabel website.

For both surfactants and aNBO and anNBO values, reference shall be made to the DID List. For ingredients which are not included in the DID List, the relevant information from literature or other sources, or appropriate test results, showing that they are aerobically and anaerobically biodegradable shall be provided as described in Appendix I – to be added.

<p>Note that TAED should be considered anaerobically biodegradable.</p>	<p>In the absence of documentation in accordance with the above requirements, an ingoing substances and mixtures other than a surfactant may be exempted from the requirement for anaerobic degradability if one of the following three alternatives is fulfilled:</p> <ol style="list-style-type: none"> 1. Readily degradable and has low adsorption ($A < 25\%$); 2. Readily degradable and has high desorption ($D > 75\%$); 3. Readily degradable and non-bioaccumulating. <p>Testing for adsorption/desorption may be conducted in accordance with OECD guidelines 106.</p>
	<p>As six EU Ecolabels related to detergents are being revised at the same time and as these products often have similar formulations, it is judicious to consider the harmonisation of their criteria. The current six EU Ecolabel criteria approach the subject using three different manners and stakeholder consultation has yielded a multitude of opinions. It has thus been decided that a discussion during the 1st AHWG meeting will be held. As a starting point for the harmonised approach, the criterion included in the most recently voted criteria for industrial and institutional products (laundry and dishwasher detergents) is proposed. The criterion will be revised following discussions with stakeholders. Collection of data on aNBO and anNBO is conducted.</p>
<p>Criterion 4: Excluded or limited substances and mixtures</p>	
<p>(a) Specified excluded ingredients</p> <p>The following ingredients must not be included in the product, neither as part of the formulation nor as part of any preparation included in the formulation:</p> <ul style="list-style-type: none"> • phosphates • EDTA (ethylenediaminetetraacetate) • nitro-musks and polycyclic musks. <p>Assessment and verification: The applicant shall provide a completed and signed declaration of compliance.</p>	<p>(a) Specified excluded ingoing substances and mixtures</p> <p>The product shall not be formulated or manufactured using any of the following compounds:</p> <ol style="list-style-type: none"> (i) Phosphates (ii) Phosphonates that are not readily biodegradable (iii) APEO (alkylphenol ethoxylates) and APD (alkylphenol derivatives) (iv) EDTA (ethylenediaminetetraacetate) (v) Nitro-musks and polycyclic musks (vi) 3-cyclohexene carboxaldehyde (HICC) (vii) Atranol and Chloroatranol (viii) Fragrance substances subject to the declaration requirement provided for in Regulation (EC) No 648/2004 of the European Parliament and of the Council on detergents (Annex VII) and which are not already excluded by criterion 2b shall not be present in quantities $\geq 0,010\%$ (≥ 100 ppm) per substance.

	<p>Assessment and verification: the applicant shall provide:</p> <p>a) a signed declaration of compliance supported by declarations from manufacturers of mixtures, as appropriate, confirming that the listed substances and/or mixtures have not been included in the product.</p> <p>b) written statements on compliance, including:</p> <ul style="list-style-type: none"> - information on the complexing agents in the product (detailed information of the type of phosphonates added as ingredients); - Information for the biodegradability of the phosphonates. A spreadsheet for use in calculating aNBO values is available on the EU Ecolabel website. For aNBO values reference should be done to the DID List. For phosphonates which are not included in the most updated DID list, the relevant information from literature or other sources, or appropriate test results, showing that they are aerobically biodegradable shall be provided as described in Appendix (to be added). <p>c) a declaration from the fragrance manufacturer specifying the content of each of the substances in the fragrances which are listed in Annex III of the Regulation (EC) No 1223/2009.</p>														
	<p>The proposed changes aim at excluding ingredients with undesired environmental and health-related properties from EU Ecolabel products. Further discussion on the harmonisation of this criterion across all product groups is needed.</p>														
<p>b) Hazardous substances and mixtures</p> <p>According to the Article 6(6) of Regulation (EC) No 66/2010 on EU Ecolabel, the product or any part of it thereof shall not contain substances or mixtures meeting the criteria for classification with the hazard classes or categories in accordance with Regulation (EC) No 1272/2008 specified below nor shall it contain substances referred to in Article 57 of Regulation (EC) No 1907/2006.</p> <p>List of hazard statements:</p> <table border="1"> <thead> <tr> <th>GHS Hazard Statement</th> <th>EU Risk Phrase</th> </tr> </thead> <tbody> <tr> <td>H300 Fatal if swallowed</td> <td>R28</td> </tr> <tr> <td>H301 Toxic if swallowed</td> <td>R25</td> </tr> <tr> <td>H304 May be fatal if swallowed and enters airways</td> <td>R65</td> </tr> <tr> <td>H310 Fatal in contact with skin</td> <td>R27</td> </tr> <tr> <td>H311 Toxic in contact with skin</td> <td>R24</td> </tr> </tbody> </table>	GHS Hazard Statement	EU Risk Phrase	H300 Fatal if swallowed	R28	H301 Toxic if swallowed	R25	H304 May be fatal if swallowed and enters airways	R65	H310 Fatal in contact with skin	R27	H311 Toxic in contact with skin	R24	<p>(b) Hazardous substances and mixtures</p> <p>According to Article 6(6) of Regulation (EC) No 66/2010, the EU Ecolabel may not be awarded to any product that contains substances meeting criteria for classification with the hazard statements specified in Table 2 in accordance with Regulation (EC) No 1272/2008 of the European Parliament or substances referred to in Article 57 of Regulation (EC) No 1907/2006. The hazard statements in Table 2 generally refer to substances. However, if information on substances cannot be obtained, the classification rules for mixtures apply.</p> <p>Substances or mixtures which change their properties through processing and thus become no longer bioavailable, or undergo chemical modification in a way that removes the previously identified hazard are exempted from criterion x(b)</p> <p>Table 2: Hazard statements</p> <table border="1"> <thead> <tr> <th>GHS Hazard Statement</th> </tr> </thead> <tbody> <tr> <td>H300 Fatal if swallowed</td> </tr> </tbody> </table>	GHS Hazard Statement	H300 Fatal if swallowed
GHS Hazard Statement	EU Risk Phrase														
H300 Fatal if swallowed	R28														
H301 Toxic if swallowed	R25														
H304 May be fatal if swallowed and enters airways	R65														
H310 Fatal in contact with skin	R27														
H311 Toxic in contact with skin	R24														
GHS Hazard Statement															
H300 Fatal if swallowed															

H330 Fatal if inhaled	R23/26	H301 Toxic if swallowed
H331 Toxic if inhaled	R23	H304 May be fatal if swallowed and enters airways
H340 May cause genetic defects	R46	H310 Fatal in contact with skin
H341 Suspected of causing genetic defects	R68	H311 Toxic in contact with skin
H350 May cause cancer	R45	H330 Fatal if inhaled
H350i May cause cancer by inhalation	R49	H331 Toxic if inhaled
H351 Suspected of causing cancer	R40	H340 May cause genetic defects
H360F May damage fertility	R60	H341 Suspected of causing genetic defects
H360D May damage the unborn child	R61	H350 May cause cancer
H360FD May damage fertility. May damage the unborn child	R60-61	H350i May cause cancer by inhalation
H360Fd May damage fertility. Suspected of damaging the unborn child	R60-63	H351 Suspected of causing cancer
H360Df May damage the unborn child. Suspected of damaging fertility	R61-62	H360F May damage fertility
H361f Suspected of damaging fertility	R62	H360D May damage the unborn child
H361d Suspected of damaging the unborn child	R63	H360FD May damage fertility. May damage the unborn child
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.	R62-63	H360Fd May damage fertility. Suspected of damaging the unborn child
H362 May cause harm to breast fed children	R64	H360Df May damage the unborn child. Suspected of damaging fertility
H370 Causes damage to organs	R39/23; R39/24; R39/25; R39/26; R39/27; R39/28	H361f Suspected of damaging fertility
H371 May cause damage to organs	R68/20; R68/21; R68/22	H361d Suspected of damaging the unborn child
H372 Causes damage to organs through prolonged or repeated exposure	R48/25; R48/24; R48/23	H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure	R48/20; R48/21; R48/22	H362 May cause harm to breast fed children
H400 Very toxic to aquatic life	R50	H370 Causes damage to organs
H410 Very toxic to aquatic life with long-lasting effects	R50-53	H371 May cause damage to organs
H411 Toxic to aquatic life with long-lasting effects	R51-53	H372 Causes damage to organs through prolonged or repeated exposure
H412 Harmful to aquatic life with long-lasting effects	R52-53	H373 May cause damage to organs through prolonged or repeated exposure
H413 May cause long-lasting harmful effects to aquatic life	R53	H400 Very toxic to aquatic life
EUH059 Hazardous to the ozone layer	R59	H410 Very toxic to aquatic life with long-lasting effects
EUH029 Contact with water liberates toxic gas	R29	H411 Toxic to aquatic life with long-lasting effects
		H412 Harmful to aquatic life with long-lasting effects
		H413 May cause long-lasting harmful effects to aquatic life
		EUH059 Hazardous to the ozone layer
		EUH029 Contact with water liberates toxic gas
		EUH031 Contact with acids liberates toxic gas
		EUH032 Contact with acids liberates very toxic gas
		EUH070 Toxic by eye contact
		H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
		H317: May cause allergic skin reaction

EUH031 Contact with acids liberates toxic gas	R31
EUH032 Contact with acids liberates very toxic gas	R32
EUH070 Toxic by eye contact	R39-41
Sensitising substances	
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled	R42
H317: May cause allergic skin reaction	R43

This criterion applies to all ingredients present in concentrations $\geq 0,010\%$, including preservatives, colouring agents and fragrances.

The use of substances or mixtures which upon processing change their properties (e.g. become no longer bioavailable, undergo chemical modification) in a way that the identified hazard no longer applies are exempted from the above requirement.

Derogations: the following substances or mixtures are specifically exempted from this requirement:

Surfactants in concentrations $<25\%$ in the final product	H400 Very toxic to aquatic life	R50
Surfactants in concentrations $<25\%$ in the final product (*)	H412 Harmful to aquatic life with long-lasting effects	R52-53
Biocides used for preservation purposes (**)	H410 Very toxic to aquatic life with long-lasting effects	R50-53
	H411 Toxic to aquatic life with long-lasting effects	R51-53
	H412 Harmful to aquatic life with long-lasting effects	R52-53
Fragrances	H412 Harmful to aquatic life with long-lasting effects	R52-53
Enzymes (***)	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled	R42
	H317: May cause allergic skin reaction	R43
Bleach catalysts (***)	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled	R42
	H317: May cause allergic skin reaction	R43

This criterion applies to all ingredients present in concentrations $\geq 0,010\%$, including preservatives, colouring agents and fragrances.

For consumer laundry products, the substances in Table 3 are exempted from the obligation in Article 6(6) of Regulation (EC) No 66/2010 following application of Article 6(7) of the same Regulation.

Table 3: Derogated substances - To be discussed in the 1st AHWG meeting

Derogated substance	H phrases
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Assessment and verification: the applicant shall demonstrate compliance with criterion X(b) for any ingoing substance or mixture present at concentrations greater than $0,010\%$ in the product.

A declaration of compliance shall be provided by the applicant supported, where appropriate, by the declarations from producer(s) of the raw materials that none of these ingoing substances and/or mixtures meet the criteria for classification with one or more of hazard statements listed in Table 2 in the form(s) and physical state(s) they are present in the product.

The following technical information related to the form(s) and physical state(s) of the ingoing substances and/or mixtures as present in the product shall be provided to support the declaration of non-classification:

- (i) For substances that have not been registered under Regulation (EC) No 1907/2006 and/or which do not yet have a harmonised CLP classification: Information meeting the requirements listed in Annex VII to that Regulation;
- (ii) For substances that have been registered under Regulation (EC) No 1907/2006 and which do not meet the requirements for CLP classification: Information based on the REACH registration dossier confirming the non-classified status of the substance;
- (iii) For substances that have a harmonised classification or are self-classified: safety data sheets where available. If these are not available or the substance is self-classified then information shall be provided relevant to the substances hazard classification according to Annex II to Regulation (EC) No 1907/2006;
- (iv) In the case of mixtures: safety data sheets where available. If these are not available then calculation of the mixture classification shall be provided according to the rules under Regulation (EC) No 1272/2008 together with information relevant to the mixtures hazard classification according to Annex II to Regulation (EC) No 1907/2006.

NTA as an impurity in MGDA and GLDA (****)	H351 suspected of causing cancer	R40	For substances listed in Annexes IV and V to Regulation (EC) No 1907/2006, which are exempted from registration obligations under point (a) and (b) of Article 2(7) of that Regulation, a declaration to this effect by the applicant shall suffice to comply with criterion X(b). A declaration on the presence of ingoing substances that fulfil the derogation conditions shall be provided by the applicant, supported, where appropriate, by declarations from the producer(s) of the raw materials. Where required for the derogation, the applicant shall confirm the concentrations of these ingoing substances in the final product.
Optical brighteners (only for heavy duty laundry detergent)	H413: May cause long lasting effects to aquatic life	R33	
<p>(*) This derogation is applicable provided that surfactants comply with Criterion 3(a) and they are anaerobically degradable</p> <p>(**) Referred to in Criterion 4(e). This derogation is applicable provided that biocides' bioaccumulation potentials are characterised by log K_{ow} (log octanol/water partition coefficient) < 3.0 or an experimentally determined bioconcentration factor (BCF) ≤ 100.</p> <p>(***) Including stabilisers and other auxiliary substances in the preparations.</p> <p>(****) In concentrations lower than 1.0 % in the raw material as long as the total concentration in the final product is lower than 0.10 %.</p> <p>Assessment and verification: The applicant shall provide the exact formulation of the product to the competent body. The applicant shall also provide a declaration of compliance with this criterion, together with related documentation, such as declarations of compliance signed by the material suppliers and copies of relevant Safety Data Sheets for substances or mixtures.</p>			<p>The proposed changes are linked to an alignment with the criterion text for rinse-off cosmetics (ROCs). The assessment and verification part explains in more detail what evidence should be provided depending on the situation, e.g. availability of harmonised classification or SDS.</p> <p>Derogations will be discussed at the 1st AHWG meeting. Industry/stakeholders are asked to provide information substantiating requests to keep the current derogations by filling in the derogation request form included at the end of the Technical Annexe. The same applies to potential new requests for derogations.</p>
<p>(c) Substances listed in accordance with article 59(1) of Regulation (EC) No 1907/2006</p> <p>No derogation from the exclusion in Article 6(6) of the Regulation (EC) No 66/2010 shall be given concerning substances identified as substances of very high concern and included in the list foreseen in Article 59 of Regulation (EC) No 1907/2006</p>			<p>(c) "Ingoing substances listed in accordance with Article 59(1) of Regulation (EC) No 1907/2006"</p> <p>No derogation from the exclusion in Article 6(6) of Regulation (EC) No 66/2010 shall be given concerning ingoing substances identified as substances of very high concern and included in the list provided for in Article 59(1) of Regulation (EC) No 1907/2006, present in the product in concentrations higher than 0,010 % (weight by weight).</p>

<p>present in mixtures in concentrations higher than 0,010 %.</p> <p>Assessment and verification: The list of substances identified as substances of very high concern and included in the candidate list in accordance with Article 59 of Regulation (EC) No 1907/2006 can be found here: http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp</p> <p>Reference to the list shall be made on the date of application. The applicant shall provide the exact formulation of the product to the competent body. The applicant shall also provide a declaration of compliance with this criterion, together with related documentation, such as declarations of compliance signed by the material suppliers and copies of relevant Safety Data Sheets for substances or mixtures.</p>	<p>Assessment and verification: reference to the list of substances identified as substances of very high concern shall be made on the date of application. The applicant shall provide the full formulation of the product to the competent body. The applicant shall also provide a declaration of compliance with criterion X(c), together with related documentation, such as declarations of compliance signed by the material suppliers and copies of relevant safety data sheets for substances or mixtures.</p>
	<p>No content-wise changes are proposed. The text is proposed to be aligned with that of the corresponding criterion in the ROC criteria.</p>
<p>(d) Specified limited ingredients – fragrances</p> <p>Any ingredients added to the product as a fragrance shall be manufactured and handled following the code of practice of the International Fragrance Association (IFRA). The code can be found on IFRA website: http://www.ifraorg.org</p> <p>The recommendations of the IFRA Standards concerning prohibition, restricted use and specified purity criteria for materials shall be followed by the manufacturer.</p> <p>Fragrance substances subject to the declaration requirement provided for in Regulation (EC) No 648/2004 of the European Parliament and of the Council on detergents (Annex VII) and which are not already excluded by criterion 4b and (other) fragrance substances classified H317/R43 (May cause allergic skin reaction) and/or H334/R42 (May cause allergy or asthma symptoms or breathing difficulties if inhaled) shall not be present in quantities $\geq 0,010\%$ (≥ 100 ppm) per substance.</p> <p><i>Assessment and verification:</i> The applicant shall provide a signed declaration of compliance indicating the amount of fragrances in the product. The applicant shall also provide a declaration from the fragrance manufacturer specifying the content of each of the substances in the fragrances which are listed in Annex III, Part I to Council Directive 76/768/EEC as well as the content of (other) substances which have been assigned the risk phrases H317/R43 and/or H334/R42.</p>	<p>(d) Fragrances</p> <p>Any ingoing substance or mixture added to the product as a fragrance shall be manufactured and handled following the code of practice of the International Fragrance Association (IFRA). The code can be found on the IFRA website: http://www.ifraorg.org. The recommendations of the IFRA Standards concerning prohibition, restricted use and specified purity criteria for materials shall be followed by the manufacturer.</p> <p>Assessment and verification: <i>the applicant shall provide a signed declaration of compliance, supported by a declaration of the fragrance manufacturer, as appropriate.</i></p>
	<p>No content-wise changes are proposed. The text is proposed to be aligned with that of other product groups. The reference to the Cosmetics Directive 76/768/EEC should be changed to the Cosmetics Regulation (EC) No 1223/2009.</p>

<p>(e) Biocides</p> <p>(i) The product may only include biocides in order to preserve the product, and in the appropriate dosage for this purpose alone. This does not refer to surfactants, which may also have biocidal properties.</p> <p>Assessment and verification: The applicant shall provide copies of the material safety data sheets of any preservatives added, together with information on their exact concentration in the product. The manufacturer or supplier of the preservatives shall provide information on the dosage necessary to preserve the product (e.g. results of a challenge test or equivalent).</p> <p>(ii) It is prohibited to claim or suggest on the packaging or by any other communication that the product has an antimicrobial action.</p> <p>Assessment and verification: The applicant shall provide texts and layouts used on each type of packaging and/or an example of each different type of packaging to the competent body.</p>	<p>(e) Preservatives</p> <p>(i) The product may contain preservatives provided that they are not bioaccumulating. A preservative is not considered bioaccumulating if $BCF < 100$ or $\log P_{ow} < 3,0$. If both BCF and $\log K_{ow}$ values are available, the highest measured BCF value shall be used.</p> <p>(ii) Preservatives in the product shall not release or degrade to substances that are classified in accordance with the requirements of criterion x(b) Hazardous substances and mixtures.</p> <p>(iii) It is prohibited to claim or suggest on the packaging or by any other communication that the product has an antimicrobial action.</p> <p>Assessment and verification: the applicant shall provide a signed declaration of compliance, together with copies of the safety data sheets of any preservative added, and information on its BCF and/or $\log K_{ow}$ values. The applicant shall provide also artwork of the packaging.</p>
	<p>The proposed changes aim at harmonising the requirements on preservatives across all six product groups and they add two additional restrictions. Firstly, it is requested that preservatives used are not bioaccumulating and secondly, that they do not release or degrade to hazardous substances excluded by criterion X(b). The statement that "product may only include biocides in order to preserve the product, and in the appropriate dosage for this purpose alone. This does not refer to surfactants, which may also have biocidal properties" is proposed to be removed as it is not easily verifiable by competent bodies.</p>
	<p>(f) Colorants</p> <p>Colorants in the product must not be bioaccumulating. A colorant is considered not bioaccumulating if $BCF < 100$ or $\log P_{ow} < 3,0$. If both BCF and $\log K_{ow}$ values are available, the highest measured BCF value shall be used. In the case of colouring agents approved for use in food, it is not necessary to submit documentation of bioaccumulation potential.</p> <p>Assessment and verification: the applicant shall provide copies of the safety data sheets of any colorant added together with information on its BCF and/or $\log K_{ow}$ value, or documentation to ensure that the colouring agent is approved for use in food.</p>
	<p>(g) Enzymes</p> <p>Enzymes shall be in liquid form or dust-free granulate. Enzymes must be free from micro-organism remnants from manufacture.</p> <p>Assessment and verification: the applicant shall provide copies of the material</p>

	safety data sheets of any enzyme added, together with documentation to ensure that the enzyme is free from micro-organism remnants.
	The proposed changes aim at harmonising the requirements on detergent ingredients, here colorants and enzymes, across the six detergent product groups. The requirement for colorants not to be bioaccumulating is in line with the requirement included for ROCs. Further, the use of enzymes is increasing and they should not render the product unsafe for users.
	<p>(h) Phosphorus content</p> <p>The total content of phosphorus in the product is limited to 0,03 Pg/kg laundry.</p> <p>Assessment and verification: The applicant shall provide written statements on compliance, including:</p> <ul style="list-style-type: none"> - information on the complexing agents in the product (detail information of the type of phosphorus-content substances added as ingredients); - information on the recommended dose for different levels of soiling or water hardness (when applicable); - calculation of the product's total P-content
	While all phosphates and non-readily biodegradable phosphonates are proposed to be excluded through criterion X(a), the total phosphorus content is proposed to be limited in order to ensure that this type of substance will contribute to eutrophication.

Criterion 5 — Packaging requirements

<p>(a) Weight/utility (WUR):</p> <p>The weight/utility ratio (WUR) of the product shall not exceed the following values:</p> <table border="1" style="width: 100%;"> <thead> <tr> <th style="text-align: left;">Product type</th> <th style="text-align: left;">WUR</th> </tr> </thead> <tbody> <tr> <td>Powders</td> <td>1.2 g/kg wash</td> </tr> <tr> <td>Others (e.g. liquids, gels, tablets, capsules)</td> <td>1.5 g/kg wash</td> </tr> </tbody> </table> <p>WUR shall be calculated only for primary packaging (including caps, stoppers and hand pumps/spraying devices) using the formula below:</p> $WUR = \Sigma[(W_i + U_i)/(D_i * r_i)]$ <p>Where:</p> <p>W_i = the weight (g) of the packaging component (i) including the label if applicable.</p>	Product type	WUR	Powders	1.2 g/kg wash	Others (e.g. liquids, gels, tablets, capsules)	1.5 g/kg wash	<p>(a) Weight/utility ratio (WUR)</p> <p>The weight/utility ratio (WUR) of the product shall be calculated for the primary packaging only and shall not exceed the following values for the reference dosage:</p> <table border="1" style="width: 100%;"> <thead> <tr> <th style="text-align: left;">Product type</th> <th style="text-align: left;">WUR</th> </tr> </thead> <tbody> <tr> <td>Powders</td> <td>1,2 g/kg wash</td> </tr> <tr> <td>Others (e.g. liquids, gels, tablets, capsules)</td> <td>1,5 g/kg wash</td> </tr> </tbody> </table> <p>Are exempted from this requirement:</p> <ul style="list-style-type: none"> - Plastic/paper/cardboard packaging containing more than 80 % recycled materials, - Paper/cardboard packaging that comes 80% from certified sustainable 	Product type	WUR	Powders	1,2 g/kg wash	Others (e.g. liquids, gels, tablets, capsules)	1,5 g/kg wash
Product type	WUR												
Powders	1.2 g/kg wash												
Others (e.g. liquids, gels, tablets, capsules)	1.5 g/kg wash												
Product type	WUR												
Powders	1,2 g/kg wash												
Others (e.g. liquids, gels, tablets, capsules)	1,5 g/kg wash												

<p>U_i = the weight (g) of non-recycled (virgin) material in the packaging component (i). If the proportion of recycled material in the packaging component is 0 % then $U_i = W_i$.</p> <p>D_i = the number of functional units contained in the packaging component (i). The functional unit = dosage in g/kg wash.</p> <p>r_i = recycling figure, i.e. the number of times the packaging component (i) is used for the same purpose through a return or refill system. The default value for r is set to 1 (= no re-use). Only if the applicant can document that the packaging component is re-used for the same purpose, a higher value for r can be used in the calculation.</p> <p>Exceptions:</p> <p>Plastic/paper/cardboard packaging containing more than 80 % recycled material is exempted from this requirement.</p> <p>Packaging is regarded as recycled if the raw material used to make the packaging has been collected from packaging manufacturers at the distribution stage or at the consumer stage. Where the raw material is industrial waste from the material manufacturer's own production process, then the material will not be regarded as recycled.</p> <p>Assessment and verification: Calculation of the WUR of the product. A spreadsheet for this calculation is available on the EU Ecolabel website. Account on the content for recycled material in the packaging. For approval of refill packaging, the applicant and/or retailer shall document that the refills will be/are available for purchase on the market.</p> <p>$WUR = \sum[(W_i + U_i)/(D_i * r_i)]$</p> <p>Where:</p> <p>$W_i$ = the weight (g) of the packaging component (i) including the label if applicable.</p> <p>U_i = the weight (g) of non-recycled (virgin) material in the packaging component (i). If the proportion of recycled material in the packaging component is 0 % then $U_i = W_i$.</p> <p>D_i = the number of functional units contained in the packaging component (i). The functional unit = dosage in g/kg wash.</p> <p>r_i = recycling figure, i.e. the number of times the packaging component (i) is used for the same purpose through a return or refill system. The default value for r is set</p>	<p>sources,</p> <p>- Plastic packaging containing more than 80 % plastic from sustainable sources.</p> <p>Assessment and verification: the applicant shall provide the calculation of the WUR of the product. A spreadsheet for this calculation is available on the EU Ecolabel website. If the product is sold in different packaging (i.e. with different volumes), the calculation shall be submitted for each packaging size for which the EU Ecolabel shall be awarded.</p> <p>The applicant shall provide a completed and signed declaration for the content of recycled material in the packaging.</p> <p>- For paper and cardboard, packaging is regarded as recycled if the raw material used to make the packaging has been collected from packaging manufacturers at the distribution stage or at the consumer stage. Where the raw material is industrial waste from the material manufacturer's own production process, then the material will not be regarded as recycled.</p> <p>- For plastic, packaging is regarded as recycled if the raw material used to make the packaging comes from industrial waste or has been collected from packaging manufacturer at the distribution or at the consumer stage.</p> <p>The applicant shall provide a completed and signed declaration for the content of sustainably sourced material in the packaging. For paper and cardboard, the applicant shall provide TBD⁶. For plastic, the applicant shall provide TBD.</p> <p>The WUR is calculated as follows:</p> $WUR = \sum((W_i + U_i)/(D_i * R_i))$ <p>Where:</p> <p>W_i: weight (g) of the primary packaging (i),</p> <p>U_i: weight (g) of non-recycled and non-sustainably sourced packaging in the primary packaging (i). $U_i = W_i$ unless the applicant can document otherwise,</p> <p>D_i: number of reference doses contained in the primary packaging (i),</p> <p>R_i: number of times that the primary packaging (i) can be refilled and used for the same purpose. $R_i = 1$ (packaging is not reused for the same purpose) unless the applicant can document a higher number.</p>
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⁶ TBD: to be determined. The acceptable certification schemes for the assessment and verification of this criterion have not been determined yet.

to 1 (= no re-use). Only if the applicant can document that the packaging component is re-used for the same purpose, a higher value for r can be used in the calculation.

(b) Plastic packaging:

Only phthalates that at the time of application have been risk assessed and have not been classified according to criterion 4(b) (and combinations hereof) may be used in the plastic packaging.

(c) Labelling of plastic packaging

To allow for identification of different parts of the packaging for recycling, plastic parts in the primary packaging must be marked in accordance with DIN 6120, Part 2 or the equivalent. Caps and pumps are exempted from this requirement.

Assessment and verification: The applicant shall provide completed and signed declaration of compliance.

(b) Design for recycling

Plastic packaging shall be designed to facilitate effective recycling by avoiding potential contaminants and incompatible materials that are known to impede separation or reprocessing or to reduce the quality of recyclate. The label or sleeve, closure and, where applicable, barrier coatings shall not comprise, either singularly or in combination the materials and components listed in Table 4. Pumps are exempted from this requirement.

Table 4: Materials and components excluded from packaging elements

Packaging element	Excluded materials and components ⁷
Label or sleeve	<ul style="list-style-type: none"> - PS label or sleeve in combination material used with a PET, PP or HDPE bottle - PVC label or sleeve in combination with a PET, PP or HDPE bottle - PETG label or sleeve in combination with a PET bottle - Sleeves made of different polymer than the bottle - Labels or sleeves that are metallised or are welded to a packaging body (in mould labelling)
Closure	<ul style="list-style-type: none"> - PS closure in combination a with a PET, HDPE or PP bottle - PVC closure in combination with a PET, PP or HDPE bottle - PETG closures and/or closure material with density of above 1 g/cm³ in combination with a PET bottle - Closures made of metal, glass, EVA - Closures made of silicone. Exempted are silicone closures with a density < 1 g/cm³ in combination with a PET bottle and silicone closures with a density > 1g/cm³ in combination with PEHD or PP bottle - Metallic foils or seals which remain fixed to the bottle or its closure after the product has been opened
Barrier coatings	Polyamide, EVOH, functional polyolefins, metallised and light blocking barriers

Assessment and verification: The applicant shall submit a signed declaration of

⁷ EVA – Ethylene Vinyl Acetate, EVOH – Ethylene vinyl alcohol, HDPE – High-density polyethylene, PET – Polyethylene terephthalate, PETG – Polyethylene terephthalate glycol-modified, PP – Polypropylene, PS – Polystyrene, PVC – Polyvinylchloride

	compliance specifying the material composition of the packaging including the container, label or sleeve, adhesives, closure and barrier coating, and a sample of primary packaging.					
	The minor proposed change in WUR aims to promote sustainably sourced raw materials. The currently present specific criteria on labelling of packaging and plastic packaging are proposed to be removed, while the recyclability of plastic packaging is proposed to be promoted by limiting combinations of materials that can hinder the recycling process.					
Criterion 6: Fitness for use						
<p>The product shall comply with the performance requirements as specified for the relevant product type according to the EU Ecolabel laundry detergents performance test's latest version which can be found here: http://ec.europa.eu/environment/ecolabel/products-groups-and-criteria.html</p> <p>Assessment and verification: The applicant shall provide a test report indicating that the product fulfils the minimum requirements defined in this test.</p>	<p>Tests shall be carried out to ensure that the product has a satisfactory wash performance at the lowest recommended dosage for the water hardness according to the EU Ecolabel protocol available at the website⁸.</p> <p>The tests shall be carried out at the water temperature stated in the protocol or at the lowest temperature the product claims to be effective at. The test shall be performed by a laboratory complying with Appendix (to be added).</p> <p>Assessment and verification: The applicant shall provide documentation confirming that the product has been tested under the protocol conditions and that the results passed the minimum washing performance required. Information should be provided on the compliance within the laboratory requirements included in Appendix (to be added).</p>					
	The main changes to this criterion come from updates made to the protocol – since June 2014, the maximum water temperature for performance testing has been lowered. Changes are proposed to the documents to provide for the verification of the compliance with the minimum requirements for the testing laboratory.					
Criterion 7: Points						
<p>(a) Heavy-duty laundry detergents, Colour-safe laundry detergents:</p> <p>A minimum of 3 points shall be achieved from the matrix below. The maximum achievable points are 8 points for cold-water products, 7 points for low-temperature and 6 points for other products.</p> <table border="1"> <tr> <td rowspan="2">Climate profile</td> <td>Coldwater product (washing performance documents at ≤20 °C</td> <td>2P</td> </tr> <tr> <td>Low-temperature product (washing performance documented at >20 °C to <30 °C)</td> <td>1P</td> </tr> </table>	Climate profile	Coldwater product (washing performance documents at ≤20 °C	2P	Low-temperature product (washing performance documented at >20 °C to <30 °C)	1P	<i>Criterion proposed to be removed</i>
Climate profile		Coldwater product (washing performance documents at ≤20 °C	2P			
	Low-temperature product (washing performance documented at >20 °C to <30 °C)	1P				

⁸ <http://ec.europa.eu/environment/ecolabel/documents/Performance%20Test%20Laundry%20Detergents.pdf>

Maximum dosage	Max dosage ≤14 g/kg wash (powder/tablet) or ≤ 14 ml/kg wash (liquid/gel)	2P																								
	Max dosage ≤16 g/kg wash (powder/tablet) or ≤ 16 ml/kg wash (liquid/gel)	1P																								
CDV	CDVchronic <25,000 l/kg wash	2P																								
	CDVchronic between 25,000 to 30,000 l/kg wash	1P																								
aNBO	aNBO ≤75 % of limit value	1P																								
anNBO	anNBO ≤75 % of limit value	1P																								
Minimum points to be achieved in order to be awarded EU Ecolabel		3P																								
<p>(b) Low-duty laundry detergents:</p> <p>A minimum of 3 points shall be achieved from the matrix below. The maximum achievable points are 8 points for coldwater products, 7 points for low-temperature products and 6 points for other products.</p> <table border="1"> <tr> <td rowspan="2">Climate profile</td> <td>Coldwater product (washing performance documented at ≤20 °C)</td> <td>2P</td> </tr> <tr> <td>Low-temperature product (washing performance documented at >20 °C to <30 °C)</td> <td>1P</td> </tr> <tr> <td rowspan="2">Maximum dosage</td> <td>Max dosage ≤14 g/kg wash (powder/tablet) or ≤ 14 ml/kg wash (liquid/gel)</td> <td>2P</td> </tr> <tr> <td>Max dosage ≤16 g/kg wash (powder/tablet) or ≤ 16 ml/kg wash (liquid/gel)</td> <td>1P</td> </tr> <tr> <td rowspan="2">CDV</td> <td>CDVchronic <15,000 l/kg wash</td> <td>2P</td> </tr> <tr> <td>CDVchronic between 15,000 to 18,000 l/kg wash</td> <td>1P</td> </tr> <tr> <td>aNBO</td> <td>aNBO ≤75 % of limit value</td> <td>1P</td> </tr> <tr> <td>anNBO</td> <td>anNBO ≤75 % of limit value</td> <td>1P</td> </tr> <tr> <td colspan="2">Minimum points to be achieved in order to be awarded EU Ecolabel</td> <td>3P</td> </tr> </table> <p>Assessment and verification: Calculation of the sum of points achieved for the product. A spreadsheet for this calculation is available on the EU Ecolabel.</p>			Climate profile	Coldwater product (washing performance documented at ≤20 °C)	2P	Low-temperature product (washing performance documented at >20 °C to <30 °C)	1P	Maximum dosage	Max dosage ≤14 g/kg wash (powder/tablet) or ≤ 14 ml/kg wash (liquid/gel)	2P	Max dosage ≤16 g/kg wash (powder/tablet) or ≤ 16 ml/kg wash (liquid/gel)	1P	CDV	CDVchronic <15,000 l/kg wash	2P	CDVchronic between 15,000 to 18,000 l/kg wash	1P	aNBO	aNBO ≤75 % of limit value	1P	anNBO	anNBO ≤75 % of limit value	1P	Minimum points to be achieved in order to be awarded EU Ecolabel		3P
Climate profile	Coldwater product (washing performance documented at ≤20 °C)	2P																								
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anNBO	anNBO ≤75 % of limit value	1P																								
Minimum points to be achieved in order to be awarded EU Ecolabel		3P																								
		It is proposed to remove the points system as it is considered not to fulfil the objective it was set for.																								

Criterion 8: Consumer information

(a) Dosage instructions

The recommended dosages shall be specified for 'normally' and 'heavily' soiled textiles and various water hardness' ranges relevant to the countries concerned and referred as appropriate to the weight of textile. (Not applicable for stain removers).

The difference between the dosage recommendations for the lowest water hardness range (soft) for normally soiled textiles and the highest water hardness range (hard) for heavily soiled textiles may not differ by more than a factor of 2. (Not applicable for stain removers).

The reference dosage used for the washing performance test and for assessment of compliance with the ecological criteria on ingredients shall be the same as the recommended dosage on the package for 'normally soiled' textiles and a water hardness corresponding to 2,5 mmol CaCO₃/l.

Where only water hardness lower than 2,5 mmol CaCO₃/l are included in the recommendations, the maximum dosage recommended for 'normally soiled' shall be lower than the reference dosage used in the washing performance test (water hardness 2,5 mmol CaCO₃/l).

(b) Information on the packaging

The following washing recommendations (or equivalent) shall appear on the packaging of EU Ecolabelled products within the product group except pre-treatment stain removers. The washing recommendations may be present either as text or symbols:

- Wash at the lowest possible temperature
- Always wash with full load
- Dose according to soil and water hardness, follow the dosing instructions
- If you are allergic to house dust, always wash bedding at 60 °C. Increase wash temperature to 60 °C in case of infectious diseases.

Using this EU Ecolabelled product according to the dosage instructions will contribute to the reduction of water pollution, waste production and energy consumption.'

(c) Claims on the packaging

In general, claims on the packaging shall be documented either through performance testing or other documentation (e.g. claims of efficiency at low temperatures, claims of removal of certain stain types, claims of benefits for certain types or colours of textile or other claims of specific properties/benefits of the product) e.g. if a product

The detergent shall be accompanied by instructions for proper use so as to maximise product performance and minimise waste. These instructions shall be legible or include graphical representation or icons and include information on:

a) dosing instructions

The primary packaging shall include information on the recommended dosage in g or ml for a standard load for at least two levels of soiling. A second well-known metric may be given in brackets. If the packing has an efficient and convenient dosage system that can provide an equally reliable dosage, an alternative metric (e.g. capsules, squirts, or other) can be used. The dosing instructions shall include information on the impact of water hardness on dosing and indicate the most prevalent water hardness in the area where the product is intended to be marketed or where this information can be found.

b) resource saving measures

An indication on the primary packaging shall encourage users to wash at the lowest appropriate temperature: the applicant shall recommend washing at the lowest temperature the product claims effectiveness, which shall not be higher than 30C, and recommend washing beddings and cloths at 60C if the users suffer from allergies to house dust or infectious diseases.

An indication on the primary packaging shall encourage users to wash full loads.

c) packaging disposal information

The primary packaging shall include information on the reuse, recycling and/or correct disposal of packaging.

d) environmental information (voluntary)

The following text is recommended to appear on the primary packaging but its use is voluntary:

"All detergents have an effect on the environment. Always use the correct dose for maximum effectiveness, the lowest recommended temperature. This will minimize both energy and water consumption and reduce water pollution".

Assessment and verification: The applicant shall provide a sample of the product packaging, including the label.

<p>claims efficiency at 20 °C, the efficiency test must be performed at ≤ 20 °C (and correspondingly for other temperature claims below 30 °C). e.g. if a product claims to be efficient on certain stain types, this must be documented with efficiency test.</p> <p>(d) Information on the packaging — additional requirements for stain removers</p> <p>The removal of stains, for which no performance test has been conducted, shall not be claimed on the product.</p> <p>Assessment and verification (a-d): The applicant shall provide a sample of the product label, together with a declaration of compliance with this criterion. Product claims shall be documented through appropriate test reports or other relevant documentation.</p>	
	<p>The proposed changes bring the wording of the requirements in line with the corresponding criterion found in other detergent product group EU Ecolabels. An optional environmental statement is proposed as well as the removal of the requirement on claims on the packaging.</p>
<p>Criterion 9 — Information appearing on the EU Ecolabel</p>	
<p>Optional label with text box shall contain the following text:</p> <p>‘— Reduced impact on aquatic ecosystems — Limited hazardous substances — Performance tested.’</p> <p><i>The guidelines for the use of the optional label with text box can be found in the ‘Guidelines for use of the Ecolabel logo’ on the website: http://ec.europa.eu/environment/ecolabel/promo/logos_en.htm</i></p> <p>Assessment and verification: The applicant shall provide a sample of the label.</p>	<p>The logo should be visible and legible. The use of the EU Ecolabel logo is protected in primary EU law. The EU Ecolabel registration/licence number must appear on the product, it must be legible and clearly visible.</p> <p>The optional label with text box shall contain the following text:</p> <ul style="list-style-type: none"> - reduced impact on aquatic ecosystems - limited hazardous substances - performance tested <p>Assessment and verification: The applicant shall provide a sample of the product packaging, including the label.</p>
	<p>The proposed change concerns the visibility and use of the EU Ecolabel logo and box.</p>

Criterion NEW: Sustainable sourcing of palm oil, palm kernel oil and their derivatives

	<p>Ingredients used in the product which are derived from palm oil or palm kernel oil must be sourced from plantations that meet the criteria for sustainable management that have been developed by multi-stakeholder organisations who have a broad based membership including NGOs, industry and government.</p> <p>Assessment and verification: the applicant shall provide third-party certifications that the palm oil used in the manufacturing of the product originates from sustainable managed plantations. Certifications accepted shall include RSPO (by identified preserved, segregates or mass balance) or any equivalent scheme based on multi-stakeholder sustainable management criteria. For chemical derivatives of palm oil it is acceptable to demonstrate sustainability for these through book and claim systems such as GreenPalm or equivalent.</p>
	<p>New criterion proposal to ensure the sustainable sourcing of ingredients for which certification schemes exist.</p>

1.7 Revision of main decision text

1.7.1 Name, definition and scope for EU Ecolabel

Current definition and scope

The product group 'Laundry Detergents' shall comprise: laundry detergents and pre-treatment stain removers whether in powder, liquid or any other form which are marketed and used for the washing of textiles principally in household machines but not excluding their use in laundrettes and common laundries.

Pre-treatment stain removers include stain removers used for direct spot treatment of textiles (before washing in the machine) but do not include stain removers dosed in the washing machine and stain removers dedicated to other uses besides pre-treatment.

This product group shall not comprise products that are dosed by carriers such as sheets, cloths or other materials nor washing auxiliaries used without subsequent washing such as stain removers for carpets and furniture upholstery.

Proposal for new definition and scope

The product group 'Consumer laundry detergents' shall comprise laundry detergents and pre-treatment stain removers which are marketed and used for the washing of textiles principally in [domestic machines](#) but not excluding their use in laundrettes and common laundries.

Pre-treatment stain removers include stain removers used for direct spot treatment of textiles (before washing in the machine) but do not include stain removers dosed in the washing machine and stain removers dedicated to other uses besides pre-treatment.

This product group shall not comprise products that are dosed by carriers such as sheets, cloths or other materials nor washing auxiliaries used without subsequent washing such as stain removers for carpets and furniture upholstery.

Rationale and discussion

The Detergents Regulation provides the following definition for the product group covered by this EU Ecolabel:

"consumer laundry detergent' means a detergent for laundry placed on the market for use by non-professionals, including in public laundrettes."

In order to harmonise the EU Ecolabel with the Detergents Regulation and to clarify the scope, it is proposed to change the **name** of the product group from "laundry detergents" to "consumer laundry detergents".

The **definition** of the product group is proposed to be slightly modified in order to bring further harmonisation, in terms of wording, among the EU Ecolabels and the Detergents Regulation. Several terms are used in the documents to refer to domestic/household/consumer products, by limiting the variety, the texts should be more easily understood.

Further information on the differences between consumer and industrial and institutional detergents can be found in the Technical Annexe (Section 7.3.1).

Concerning the **scope** of the EU Ecolabel, it is proposed to discuss the inclusion of fabric softeners during the 1st AHWG meeting. Indeed, it appears to be an issue of interest as several stakeholders expressed a favourable opinion on their inclusion during consultation, although they did not provide reasons behind their recommendations.

During the previous revision of this product group the inclusion of fabric softeners was recommended on the basis that they are used in high tonnages in Europe and stakeholders requested ecolabel alternatives. However, not all of the members of the working group were

in favour of the inclusion of fabric softeners and as such it was dropped from the final criteria document.

As part of the technical analysis presented in the Preliminary Report (Section 4.9.6), an LCA with addition of a fabric softener was conducted to analyse potential additional impact of a fabric softener/detergent combination. The addition of fabric softener was modelled to be at the recommended dose rate of 5,6 ml/kg of laundry. The normalized results of the sensitivity analysis are shown in Figure 2 for key impact categories.

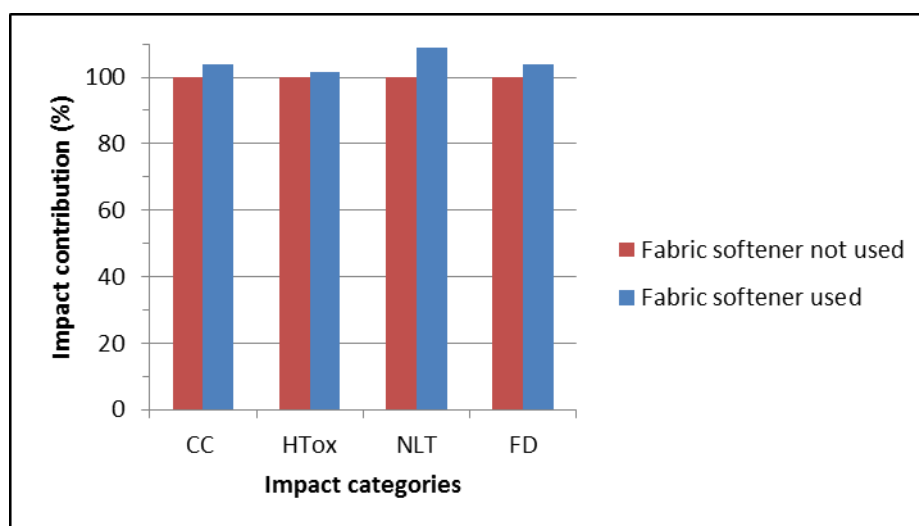


Figure 2: Sensitivity analysis of fabric softener use

The results of the analysis showed that using a fabric softener, in addition to a laundry detergent, causes a low increase of the overall environmental impact (less than 10% increase in the worst category, Natural Land Transformation (NLT)). The increase in contribution to NTL can be attributed to the increased chemical loading, in particular the use of additional ethoxylated alcohol surfactants. In conclusion, if fabric softener is used correctly (i.e. no overdosing occurs) it does not cause a significant increase in environmental impact for a single wash.

Other ecolabelling schemes vary in their approach taken to fabric softeners. Further information on the scope definitions adopted by other ecolabelling schemes can be found in the Preliminary Report (Section 2.5). The different approaches are summarised in Table 5.

Table 5: Summary of the approach taken by other ecolabeling schemes on fabric softeners

Scheme	Fabric softeners included in scope of laundry detergents?
Nordic Swan	No
Environmental Choice NZ	No
Current EU Ecolabel	No
Bra Miljöval (Good Environmental Choice)	Yes
Green Seal	Yes
Korea Eco Label	Yes
Singapore Green Labelling	No

A point of concern raised on the issue of the inclusion of fabric conditioners is whether or not they are necessary to the washing process. Indeed, the use of fabric conditioners adds an extra chemical load which is not core to the cleaning action and, as such, the general use of this type of products should be discouraged. However, the counter argument is that if

consumers want to use a fabric softeners they should be able to easily choose a more environmentally friendly product bearing the EU Ecolabel. Regardless of whether or not EU Ecolabel fabric softeners are available, the consumption of these products is not expected to change. But by introducing an additional product into the scope of the EU Ecolabel, the overall environmental impact of these products can be reduced on the long term.

Consultation questions	
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1	Should fabric softeners be excluded or included in the scope of the EU Ecolabel?
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1.7.2 Definitions

Current definition text

For the purpose of this Decision, the following definitions shall apply:

- (1) 'heavy-duty detergents' means detergents used for ordinary washing of white textiles at any temperature;
- (2) 'colour-safe detergents' means detergents used for ordinary washing of coloured textiles at any temperature;
- (3) 'low-duty detergents' means detergents intended for delicate fabrics;
- (4) 'substance' means a chemical element and their compounds in the natural state or obtained by any production process, including any additive necessary to preserve the stability of the products and any impurity deriving from the process used, but excluding any solvent which may be separated without affecting the stability of the substance or changing its composition.

Proposal for definitions text

For the purpose of this Decision, the following definitions shall apply:

- (1) "heavy-duty detergents" means detergents used for ordinary washing of white textiles at any temperature;
- (2) "colour-safe detergents" means detergents used for ordinary washing of coloured textiles at any temperature;
- (3) "low-duty detergents" means detergents intended for delicate fabrics;
- (4) "ingoing substances and mixtures" means
 - biocides, fragrances, colouring agents, and mixtures thereof, regardless of concentration in the final formulation,
 - substances and mixtures intentionally added, by-products and impurities from raw materials, the concentration of which equals or exceeds 0,010% by weight of final formulation,
- (5) "primary packaging" means
 - for single doses in a wrapper that is intended to be removed before washing, the individual dose wrapping in direct contact with the content and the packaging conceived so as to constitute the smallest sales unit of distribution to the final user or consumer at the point of purchase, including label where applicable,
 - for all other types of products, packaging conceived so as to constitute the smallest sales unit of distribution to the final user or consumer at the point of purchase in direct contact with the content, including label where applicable.

Rationale and discussion

For further information on the update of definitions listed, refer to the Technical Annexe (Section 7.4).

The section on definitions for consumer laundry detergents is proposed to be kept as is for all the definitions related to the different types of laundry detergents, as the classification of a product will impact on which requirements it should fulfil.

In the definition list, the definition for "substance" is proposed to be replaced with "ingoing substances and mixtures", which also provides information on the measurement thresholds for the different types of substances and mixtures covered.

The definition for "primary packaging" is proposed to be moved from the criterion on packaging to the definition section. The proposed expansion of the definition reflects the fact that tablets and other single dose products are appearing on the consumer laundry detergent market, although still in smaller quantities than for consumer laundry detergents, and their special packaging should be covered.

1.8 Revision of existing criteria of EU Ecolabel

1.8.1 Assessment and verification requirements and measurement thresholds

Current assessment and verification requirements and measurement thresholds

a) Requirements

The specific assessment and verification requirements are indicated within each criterion.

Where the applicant is required to provide declarations, documentation, analyses test reports, or other evidence to show compliance with the criteria, it is understood that these may originate from the applicant and/or his supplier(s) and/or their supplier(s), et cetera as appropriate.

Where possible, the testing should be performed by laboratories that meet the general requirements of EN ISO 17025 or equivalent.

Where appropriate, test methods other than those indicated for each criterion may be used if the competent body assessing the application accepts their equivalence.

Appendix I makes reference to the detergent ingredient database (DID List) which contains the most widely used ingredients used in detergent formulations. It shall be used for deriving the data for the calculations of the Critical Dilution Volume (CDV) and for the assessment of the biodegradability of the ingredients. For substances not present on the DID List, guidance is given on how to calculate or extrapolate the relevant data. The latest version of the DID List is available from the EU Ecolabel website or via the websites of the individual competent bodies.

Where appropriate, competent bodies may require supporting documentation and may carry out independent verifications.

b) Measurement thresholds

Constituent substances the concentration of which exceeds 0,010 % by weight of the preparation shall comply with the ecological criteria.

For preservatives, colouring agents and fragrance compliance with the criteria is required regardless of their concentration except for criterion 4(b) on excluded or limited substances and mixtures.

Ingoing substances are defined as all substances in the product including additives (e.g. preservatives or stabilisers) in the ingredients. Impurities resulting from the raw material production, which are present in concentrations > 0,010 % by weight of the final formulation shall also comply with the criteria.

Where the dosage instruction on the package has specifications for both prewash and subsequent wash (in addition to a normal, single wash), the total dosage (prewash + wash) shall also comply with the ecological criteria.

If the product has a water-soluble foil intended not to be removed before washing, the foil must be considered to be part of the product formulation in all requirements.

Proposal for assessment and verification requirements and measurement thresholds

a) Requirements

The specific assessment and verification requirements are indicated for each criterion.

Where the applicant is required to provide declarations, documentation, analyses, test reports, or other evidence to show compliance with the criteria, [these may originate from the applicant or his supplier\(s\) or both](#).

Where possible, the testing shall be performed by laboratories that meet the general requirements of European Standard EN ISO 17025 or equivalent.

Where appropriate, test methods other than those indicated for each criterion may be used if the competent body assessing the application accepts their equivalence.

Where appropriate, competent bodies may require supporting documentation and may carry out independent verifications.

The Appendix makes reference to the "Detergent Ingredient Database" list (DID list) which contains the most widely used ingredients in detergents and cosmetics formulations. It shall be used for deriving the data for the calculations of the Critical Dilution Volume (CDV) and for the assessment of the biodegradability of the ingoing substances. For substances not present on the DID list, guidance is given on how to calculate or extrapolate the relevant data. The latest version of the DID list is available from the EU Ecolabel website or via the websites of the individual competent bodies.

[The following information shall be provided to the competent body:](#)

(i) [The full formulation of the product indicating trade name, chemical name, CAS no. and INCI designations, DID no.2, the ingoing quantity including and excluding water, the function and the form of all ingredients regardless of concentration;](#)

(ii) [safety data sheets for each ingoing substance or mixture in accordance with Regulation \(EC\) No 1907/2006 of the European Parliament and of the Council.](#)

b) Measurement thresholds

[Compliance with the ecological criteria is required for all ingoing substances, with the exception of compliance with criterion X\(b\) and X\(c\) for preservatives, colorants and fragrances which is requested when their concentration equals or exceeds 0,010% by weight in the final formulation.](#)

If the product has a water-soluble foil intended not to be removed before washing, the foil must be considered to be part of the product formulation in all requirements.

Rationale and discussion

a) Requirements

The text regarding the assessment and verification requirements is proposed to be aligned with the text from the EU Ecolabel on Rinse-off Cosmetics. One of the most significant changes proposed is the addition of the text that clarifies what is to be provided to the CB – it was previously found in the section on the assessment and verification of the measurement threshold and functional unit. This change simplifies the reading of the criteria and harmonises the text with the ones for the other product groups being revised.

b) Measurement thresholds

The measurement threshold is the concentration of ingredients in the product for which there is a requirement for documentation of compliance with the ecological criteria. It is proposed to harmonise the measurement thresholds for all the EU Ecolabels in the detergents group and the EU Ecolabel for rinse-off cosmetics. The new text and thresholds are discussed in the Technical Annexe (Section 7.5).

In the specific case of the EU Ecolabel for laundry detergents, the new text proposes the same thresholds as in the current one except in the case of section (c) of the criterion on restricted substances. In the current text, fragrances, preservatives and colouring agents are to be taken into account regardless of concentration for all requirements except for section (b) of the criterion on restricted substances, where the measurement threshold of 0,01%

applies. In the proposed text, this exception would also apply to section (c) of that same criterion.

1.8.2 Functional unit and reference dose

Current requirements for functional unit and reference dose

Functional unit

The functional unit for this product group shall be expressed in g/kg wash (grams per kilo wash)

Reference dosage

For 'heavy-duty detergents' and 'colour-safe detergents' the dosage recommended by the manufacturer to consumers for the water hardness of 2.5 mmol CaCO₃ /l and 'normally soiled' textiles is taken as the reference dosage for the calculation of the ecological criteria, and for the testing of washing performance. For heavy-duty detergents and colour-safe detergents this is related to the dosage per 4.5 kg load (dry textiles) in the washing machine.

For 'low-duty detergents' the dosage recommended by the manufacturer to consumers for the water hardness of 2.5 mmol CaCO₃ /l and 'lightly soiled' textiles is taken as the reference dosage for the calculation of the ecological criteria, and for the testing of washing performance. For low-duty detergents this is related to the dosage per 2.5 kg load (dry textiles) in the washing machine.

If the recommended dosage is stated for other wash load sizes than the above, the reference dosage used for calculation of the ecological criteria must, however, correspond to the average load size. If the water hardness of 2.5 mmol CaCO₃ /l is not relevant in the Member States in which the detergent is marketed, the applicant shall specify the dosage used as the reference.

Proposal for functional unit and reference dose

Reference dosage

The following dosage is taken as the reference dosage for the calculations aiming at documenting compliance with the EU Ecolabel criteria and for testing of cleaning ability:

Heavy-duty detergent, colour-safe detergent	Dosage recommended by the manufacturers for one kilogram of normally soiled dry laundry (indicated in g/kg laundry or ml/kg laundry) calculated on the basis of the dosage recommended for a load of 4,5kg at a water hardness of 2,5 mmol CaCO ₃ /l
Low-duty detergent	Dosage recommended by the manufacturers for one kilogram of lightly soiled dry laundry (indicated in g/kg laundry or ml/kg laundry) calculated on the basis of the dosage recommended for a load of 2,5kg at a water hardness of 2,5 mmol CaCO ₃ /l
Stain remover (pre-treatment only)	Dosage recommended by the manufacturer for one kilogram of dry laundry (indicated in g/kg laundry or ml/kg laundry) calculated on the basis of 6 applications for a load of 4,5kg.

If the recommended dosage is stated for other wash load sizes than the above, the reference dosage used for calculation of the ecological criteria must, however, correspond to the average load size. If the water hardness of 2,5 mmol CaCO₃ /l is not relevant in the Member States in which the detergent is marketed, the applicant shall specify the dosage used as the reference.

Rationale and discussion

A functional unit in the case of laundry detergents is the amount of dishes that should be washed using a reference dosage. A reference dosage is the quantity of product used when calculating compliance with ecological requirements such as biodegradability and CDV. Further information on functional units and reference dosage in EU Ecolabels related to detergents can be found in the Technical Annexe (Section 7.6).

It is proposed to remove the paragraph on the functional unit "g/kg wash" is not a functional unit and is not used consistently throughout the text. The reference dosage for all types of

detergents is proposed to remain the same. For stain removers, the current criteria state the reference dosage as a footnote for all concerned requirements. It is proposed to state explicitly the reference dosage for stain removers in the table.

Should fabric softeners be included in the scope of the EU Ecolabel for laundry detergents, a reference dosage would have to be indicated in the table.

1.8.3 Criterion 1: Dosage requirements

Current criterion 1

The dosage corresponds to the recommended dosage in g/kg wash (powders/tablets) or ml/kg wash (liquids). The recommended dosage for a water hardness of 2.5 mmol CaCO₃/l for normally soiled textiles (heavy-duty detergents, colour-safe detergents) and lightly soiled textiles (low-duty detergents), respectively, shall be used.

The dosage shall not exceed the following amounts:

Product type	Dosage, powder/tablet	Dosage, liquid/gel
Heavy-duty laundry detergent, colour-safe detergent	17.0 g/kg wash	17.0 ml/kg wash
Low-duty detergent	17.0 g/kg wash	17.0 ml/kg wash
Stain remover (pre-treatment only)	2.7 g/kg wash	2.7 ml/kg wash(*)

(*) Estimated average dose to be used in CDV calculations. Actual dosing will depend on number of stains in any given wash-load. The estimated dosed is based on a dosage of 2 ml per application and six applications per wash-load of 4.5 kg (liquid stain remover).

If recommendations for both prewash and subsequent wash apply, the total recommended dosage (prewash + subsequent wash) shall comply with the maximum dosage level.

Assessment and verification: Full formulation of the product, label or artwork including dosage instructions. The density (g/ml) shall be stated for all products (either on the packaging or in a Safety Data Sheet).

Proposal for criterion 1

The reference dosage shall not exceed the following amounts:

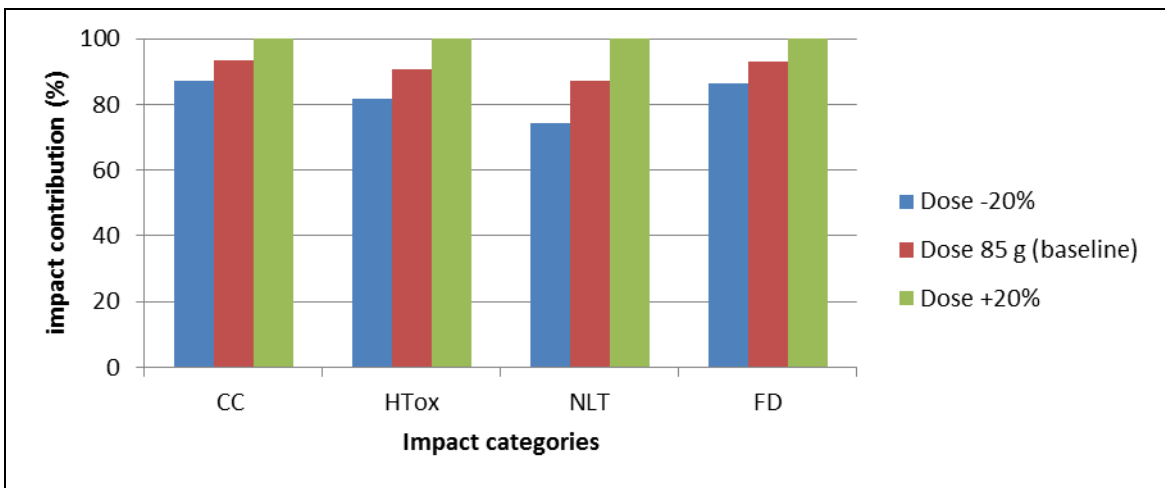
Product type	Dosage, powder/tablet	Dosage, liquid/gel
Heavy-duty laundry detergent, colour-safe detergent	16 g/kg laundry	14 ml/kg laundry
Low-duty detergent	10 g/kg laundry	10 ml/kg laundry
Stain remover (pre-treatment only)	2,7 g/kg laundry	2,7 ml/kg laundry

Assessment and verification: Full formulation of the product, label or artwork including dosage instructions. The density (g/ml) shall be stated for all products (either on the packaging or in a Safety Data Sheet).

Rationale and discussion

As dosage is recognised as an important factor for laundry detergents, the environmental impacts of product dosage were investigated in the LCA (Section 4.9.3 of the Preliminary Report). The results of the sensitivity analysis found that an increase in 20% in the dosage results in an impact increase of 16% for terrestrial ecotoxicity and up to 13% for other impact categories. The results of the sensitivity analysis for dosage are shown in Figure 3.

A review of dosages for laundry detergent products with and without the EU Ecolabel found that most products met the dosage requirements. In fact many of the products were well within the current dosage limits – for powder, liquid and gel products. Of the 45 different products surveyed only 3 exceeded the current dosage limits and the average dosage across all product types was around 12 g/kg wash.



N.B. CC=Climate Change; HTox=Human Toxicity; NLT=Natural Land Transformation; FD=Fossil Depletion

Figure 3: Characterised results of sensitivity analysis for dosage

The investigation also revealed that, in general, low-duty detergents have lower dosages than heavy-duty detergents. Of the 45 products identified (EU Ecolabel and non-EU Ecolabel), 40 fell into the heavy duty laundry detergent category, with different ranges seen for gel, liquid and powder detergents (see Table 6). With averages for all types falling below the current limits; there is sufficient evidence to substantiate lower dosage limits for both heavy and low-duty detergents in all formats:

- For heavy duty powder detergents 80 % of products analysed met the proposed dosage requirement of 16 g/kg wash.
- For heavy duty liquid laundry detergents 78 % of products analysed met the proposed dosage requirements of 14 ml per kg wash.

Table 6: Dosage ranges for heavy duty laundry detergents

	No.	Dosage (ml/kg wash)			Current limit (ml kg/wash)	Proposed limit (ml kg/wash)
		Min	Max	Average		
Liquid	19	4,66	17,00	10,13	17	14
Powder	21	10,00	22,22	15,13	17	16

NB: Comprehensive data for other low duty, stain removers and fabric conditioners not available

For low-duty detergents 80 % of products analysed met the proposed dosage requirements of 10 ml/kg wash. It should be noted that only 5 different low-duty detergent products were analysed during this investigation.

Further information on the products analysed can be found in Appendix 2 of this document.

As well as analysing the dosage requirements of laundry detergent products available on the market, the requirements of other ecolabel schemes and voluntary agreements have also been analysed (Table 7). It should be noted that the dosage levels for EU Ecolabels are calculated based on medium water hardness whereas it is calculated based on soft water for others. Washing in soft water requires less detergent and therefore the maximum dosages will be lower

Table 7: Dosage requirements for other ecolabels and voluntary schemes

Scheme	Liquid detergents	Powder detergents	Low-duty	Fabric softeners	Stain removers
AISE PREP ⁹		17 g/kg wash*		8 ml/kg wash*	
AISE Charter for sustainable cleaning	17 ml/kg wash*	17 g/kg wash*		8 ml/kg wash*	
Good Env. Choice	11.0 ml/kg wash* For soft water	9 g/kg wash* For soft water		5,5 ml/kg wash* For soft water	9,0 ml/kg wash* For soft water
Nordic Swan	14,0 ml/kg wash For soft water	14,0 g/kg wash For soft water	4,5 g/kg wash For soft water		2,7 ml/kg wash For soft water
Current EU Ecolabel	14,0 ml/kg wash	17,0 g/kg wash	17,0 g or ml/kg wash		2,7 ml/kg wash

*Figure reported per wash; 4,5 kg wash load used to convert to g/kg wash.

Thus it is proposed to lower the maximum dosages for all types of **laundry detergents** to reflect the fact that the current values do not represent challenging limits for products on the market and the fact that more concentrated formulas are readily available.

It is proposed that the dosage limits for **stain removers** should remain the same as there has been no evidence to suggest that they should change. The current limit for stain removers matches that of the Nordic Swan criteria, which are the most demanding.

Should **fabric softeners** be added to the scope of the EU Ecolabel for laundry detergents, it is proposed to set a limit of 5,6ml/kg laundry, which corresponds to 25ml/load. This limit is in line with Australia's Good Environmental Choice and would set a strict requirement, which would reflect the fact that only the best environmentally performing products should be awarded the EU Ecolabel.

Consultation questions	
1	Are separate dosage requirements needed for concentrated products? Or should concentrated products be encouraged by setting strict dosage limits?
2	Is the limit proposed for fabric softeners sufficient?
3	Are the new proposed limits too strict? If yes please provide evidence.

⁹ <http://www.aise.eu/our-activities/sustainable-cleaning-78/product-resource-efficiency-projects.aspx>

1.8.4 Criterion 2: Toxicity to aquatic organisms: Critical Dilution Volume (CDV)

Current criterion 2

The critical dilution volume of the product must not exceed the following limits (CDV_{chronic}):

Product type	CDV _{chronic}
Heavy-duty laundry detergent, colour-safe detergent	35,000 l/kg wash
Low-duty detergent	20,000 l/kg wash
Stain remover (pre-treatment only)	3,500 l/kg wash (*)

(*) CDV limit based on an estimated dosage of 2 ml per application and 6 applications per wash-load of 4.5 kg for a liquid stain remover. Products dosed as, e.g. powder or paste shall comply with the same CDV limits.

Preservatives, colouring agents and fragrances present in the product shall also be included in the CDV calculation even if the concentration is lower than 0.010 % (100 ppm).

Assessment and verification: Calculation of the CDV chronic of the product. A spreadsheet for calculation of the CDV value is available on the EU Ecolabel website.

The values of the DF and TF parameters shall be as given in the Detergent Ingredient Database list (DID List). If the substance is not found on the DID List, the parameters shall be calculated using the guidelines in part B of the DID List and attaching the associated documentation.

Proposal for criterion 2 – "Toxicity to aquatic organisms"

The critical dilution volume (CDV) of the product must not exceed the following limits for the reference dosage:

Product type	Limit CDV
Heavy-duty laundry detergent, colour-safe detergent	32 000 l/kg laundry
Low-duty detergent	20 000 l/kg laundry
Stain remover (pre-treatment only)	3 500 l/kg laundry

Assessment and verification: Calculation of the CDV of the product. A spreadsheet for calculation of the CDV value is available on the EU Ecolabel website.

The Critical Dilution Volume (CDV) is calculated for all ingoing substances and mixtures (i) in the product using the following equation:

$$CDV = \sum CDV(i) = 1000 \cdot \sum dosage(i) \cdot \frac{DF(i)}{TF(i)}$$

Where:

dosage(i): weight (g) of the substance or mixture *i* in the reference dose,

DF(i): degradation factor for the substance or mixture *i*

TF(i): toxicity factor for the substance or mixture *i*

The values of *DF(i)* and *TF(i)* shall be as given in the DID list Part A (Appendix I – to be added). If a substance or mixture is not included in the DID list Part A, the applicant shall estimate the values follow the approach described in the DID list Part B (Appendix I – to be added).

Rationale and discussion

Detergents have great potential to cause disturbances in aquatic ecosystems as they cause chemical emissions to water during their entire life cycle. For this reason, EU Ecolabels limit the amount of emissions due to EU Ecolabel products. Critical Dilution Volume (CDV) is used in the current EU Ecolabels related to detergents to assess toxicity to aquatic organisms. It is proposed to keep this assessment method in this revision.

Further description of CDV and discussion of other assessment methods can be found in the Technical Annexe (Section 7.8).

To align with the other EU Ecolabels related to detergents, it is proposed to shorten the criterion's name to "toxicity to aquatic organisms".

In order to revise the CDV limits for the different products covered by this EU Ecolabel on laundry detergents, stakeholders (including competent bodies) were contacted and asked to provide information on CDV values of products on the market. A total of 28 CDV values for laundry detergents were received, no information was received on stain removers. These can be split into liquids and powders (Table 8, see also Figure 4 and Figure 5 in Appendix 1 of this document for more detail). In summary it was found that the average values for the sample investigated were lower than the current criteria values.

Table 8: CDV ranges for heavy duty laundry detergents

	CDV (l/kg wash)			Current limit (l/kg wash)	Proposed limit (l/kg wash)
	Min	Max	Average		
Liquid	19 600	31 600	27 000	35 000	32 000
Powder	11 000	30 700	20 100	35 000	32 000

NB: Comprehensive data for other low duty, stain removers and fabric conditioners not available

For these heavy-duty detergents there is a wide range of CDV values, from 11,000 to 31,600 l/kg wash with average value for liquids of 27,000 and 20,100 l/kg wash for powders. This indicates that a proposal for stricter CDV limits for heavy duty detergents could be substantiated. It could even be argued that powder and liquid heavy-duty detergents could be covered by two different CDV limits as there are differences in the CDV values for the two types of products. This type of differentiation has also been suggested by stakeholders.

In general liquid detergents contain more surfactants per functional unit than powder detergents and, as surfactants have a high contribution to the CDV of the product, it follows that liquid detergents will have a higher contribution to the CDV than do powder detergents. Nevertheless, due to the relatively small sample size and as no other criterion differentiates the two, it is proposed to keep liquid and powder detergents under one requirement with a CDV limit of 32 000.

No change is proposed to the CDV limit for low-duty detergents or stain removers, as no data for these product types was obtained and the market analysis did not highlight any significant changes in the low-duty detergents market.

Should **fabric softeners** be added to the scope of the EU Ecolabel for laundry detergents, a CDV limit of 7 500 litres is proposed. This limit was proposed during the previous revision and was established following an investigation of the CDV values of 10 fabric softeners on the market. As fabric softeners have not experienced significant product innovation over the past few years, the previously proposed limits should still be suitable.

Consultation questions	
1	Should the CDV values be stricter?
2	Are different CDV values required liquid and powder detergents?
3	Is the CDV value for fabric softeners sufficient?

1.8.5 Criterion 3: Biodegradability of organics

Current criterion 3

The content of organic substances in the product that are aerobically non-biodegradable (not readily biodegradable aNBO) or anaerobically non-biodegradable (anNBO) shall not exceed the following limits:

aNBO:

Product type	aNBO, powder	aNBO, liquid
Heavy-duty laundry detergent, colour-safe detergent	1.0 g/kg wash	0.55 g/kg wash
Low-duty detergent	0.55 g/kg wash	0.30 g/kg wash
Stain remover (pre-treatment only) (*)	0.10 g/kg wash	0.10 g/kg wash

(*) aNBO limit based on an estimated dosage of 2 ml per application and 6 applications per wash-load of 4.5 kg for a liquid stain remover.

For anaerobically non-biodegradable organics (anNBO):

Product type	anNBO, powder	anNBO, liquid
Heavy-duty laundry detergent, colour-safe detergent	1.3 g/kg wash	0.70 g/kg wash
Low-duty detergent	0.55 g/kg wash	0.30 g/kg wash
Stain remover (pre-treatment only) (*)	0.10 g/kg wash	0.10 g/kg wash

(*) anNBO limit based on an estimated dosage of 2 ml per application and 6 applications per wash-load of 4.5 kg for a liquid stain remover.

Assessment and verification: Calculation of aNBO and anNBO for the product. A spreadsheet for use in calculating aNBO and anNBO values is available on the EU Ecolabel website.

Refer to the DID List. For ingredients which are not included in the DID List, the relevant information from literature or other sources, or appropriate test results, showing that they are aerobically and anaerobically biodegradable shall be provided. See Appendix I.

Note that TAED should be considered anaerobically biodegradable

Proposal for criterion 3 – "Biodegradability"

a) Biodegradability of surfactants

To be discussed at the 1st AHWG meeting.

All surfactants shall be biodegradable under aerobic conditions.

All surfactants shall be biodegradable under anaerobic conditions.

b) Biodegradability of organic substances and mixtures

To be discussed at the 1st AHWG meeting.

The content of organic substances and mixtures in the product that are aerobically non-biodegradable (not readily biodegradable aNBO) or anaerobically non-biodegradable (anNBO) shall not exceed the following limits for the reference dosage:

aNBO

Product type	aNBO, powder	aNBO, liquid
Heavy-duty laundry detergent, colour-safe detergent	1,0 g/kg wash	0,55 g/kg wash
Low-duty detergent	0,55 g/kg wash	0,30 g/kg wash
Stain remover (pre-treatment only)	0,10 g/kg wash	0,10 g/kg wash

anNBO

Product type	anNBO, powder	anNBO, liquid
Heavy-duty laundry detergent, colour-safe detergent	1,3 g/kg wash	0,70 g/kg wash
Low-duty detergent	0,55 g/kg wash	0,30 g/kg wash
Stain remover (pre-treatment only)	0,10 g/kg wash	0,10 g/kg wash

Assessment and verification: The applicant shall provide documentation for the degradability of surfactants, as well as the calculations of aNBO and anNBO for the product. A spreadsheet for use in calculating aNBO and anNBO values is available on the EU Ecolabel website.

For both surfactants and aNBO and anNBO values, reference shall be made to the DID List. For ingredients which are not included in the DID List, the relevant information from literature or other sources, or appropriate test results, showing that they are aerobically and anaerobically biodegradable shall be provided as described in Appendix I – to be added.

In the absence of documentation in accordance with the above requirements, an ingoing substances and mixtures other than a surfactant may be exempted from the requirement for anaerobic degradability if one of the following three alternatives is fulfilled:

1. Readily degradable and has low adsorption ($A < 25\%$);
2. Readily degradable and has high desorption ($D > 75\%$);
3. Readily degradable and non-bioaccumulating.

Testing for adsorption/desorption may be conducted in accordance with OECD guidelines 106.

Rationale and discussion

In the current EU Ecolabel criteria for laundry detergents only the biodegradability of organic substances is considered. Nevertheless, laundry detergents contain large number of surfactants, some of which are not readily biodegradable (aerobically, aNBO) or not anaerobically degradable (anNBO).

As explained in the Technical Annexe (Section 7.9), the use of non-biodegradable (aNBO, anNBO) ingredients should be limited as substances which do not degrade rapidly in the environment have the potential to exert toxicity. A limitation (i.e. having maximum concentrations) allows for flexibility with formulations whilst reducing the risk to the environment.

As six EU Ecolabels related to detergents are being revised at the same time and as these products often have similar formulations, it is judicious to consider the harmonisation of their criteria. In the case of biodegradability, the current six EU Ecolabel criteria approach the subject using three different approaches and stakeholder consultation has yielded a

multitude opinions. It has thus been decided that a discussion during the 1st AHWG meeting will be conducted. As a starting point for the harmonised approach the criterion included in the most recently voted criteria for industrial and institutional products (laundry and dishwasher detergents) is proposed. It requires aerobic and anaerobic degradability of surfactants and limits the amount of non-aerobically and non-anaerobically degradable organics. Specific issues related to single product groups should be then taken into account (for instance in the case of IILD only non-ionic and cationic surfactants have to be anaerobically degradable, while anionic surfactants were exempted from this requirement). At present the values for aNBO and anNBO of the products are collected. This exercise will help evaluating validity of the current thresholds. The criterion on biodegradability will be revised following discussions with stakeholders.

Consultation questions	
1	Is the proposed approach to biodegradability suitable for consumer laundry detergents?
2	What would be the appropriate limits for aNBO and anNBO? Could stakeholders please share with the project team data on the amount of aNBO and anNBO organic substances and mixtures in the product groups covered?

1.8.6 Criterion 4: Excluded or limited substances and mixtures

Current criterion 4 a

The following ingredients must not be included in the product, neither as part of the formulation nor as part of any preparation included in the formulation:

- phosphates
- EDTA (ethylenediaminetetraacetate)
- nitro-musks and polycyclic musks.

Assessment and verification:

The applicant shall provide a completed and signed declaration of compliance.

Proposal for criterion X(a) – "Specified excluded ingoing substances and mixtures"

The product shall not be formulated or manufactured using any of the following compounds:

- (i) Phosphates
- (ii) Phosphonates that are not readily biodegradable
- (iii) APEO (alkylphenol ethoxylates) and APD (alkylphenol derivatives)
- (iv) EDTA (ethylenediaminetetraacetate)
- (v) Nitro-musks and polycyclic musks
- (vi) Hydroxyisohexyl 3-cyclohexene carboxaldehyde (HICC)
- (vii) Atranol and Chloroatranol
- (viii) Fragrance substances subject to the declaration requirement provided for in Regulation (EC) No 648/2004 of the European Parliament and of the Council on detergents (Annex VII) and which are not already excluded by criterion 2b shall not be present in quantities $\geq 0,010\%$ (≥ 100 ppm) per substance.

Assessment and verification: *the applicant shall provide :*

a) a signed declaration of compliance supported by declarations from manufacturers of mixtures, as appropriate, confirming that the listed substances and/or mixtures have not been included in the product.

b) written statements on compliance, including:

- information on the complexing agents in the product (detailed information of the type of phosphonates added as ingredients);
- information for the biodegradability of the phosphonates. A spreadsheet for use in calculating aNBO values is available on the EU Ecolabel website.

For aNBO values reference should be done to the DID List. For phosphonates which are not included in the most updated DID list, the relevant information from literature or other sources, or appropriate test results, showing that they are aerobically biodegradable shall be provided as described in Appendix I – to be added.

c) a declaration from the fragrance manufacturer specifying the content of each of the substances in the fragrances which are listed in Annex III of the Regulation (EC) No 1223/2009.

Rationale and discussion

Limiting environmentally harmful substances from the product group of LDs is important, as most ingredients of these products end up in the aquatic environment through sewage treatment systems after use and sometimes they can be released directly to aquatic environment.

The requirement (a) *Specified excluded ingoing substances and mixtures* lists substances of concern, which (due to their properties and related impacts) are undesired in Ecolabel

products. Among them there are certainly also substances which are classified or excluded above the concentration of 0.01% by sub-section (b) *Hazardous substances and mixtures* of this criterion. Nevertheless, due e.g. lack of harmonised classification and their potential hazard, it seems reasonable to cover them under this section and exclude completely from the EU Ecolabel products. We are conscious that at this stage overlaps in criteria regarding substances are possible. This will be tackled at the later stage of the process.

The information and grounds that lead to the exclusion of the following substances and substance groups are summarized in the Technical Annexe (Section 7.10) and in the last section of this criterion.

Harmonisation with IILD product group

Where possible, the list of specified excluded ingoing substances should be harmonised between the IILD and LD product groups. The Commission Statement following the previous revision on of the requirements expressed that the possibility of a closer alignment between the Industrial and Institutional and Domestic criteria should be investigated. As a consequence the substances to be excluded in various product groups will be discussed in a horizontal session in the 1st AHWG meeting.

At present the following substances are proposed to be added to the excluded substances list based on initial feedback and information collected (however, further consideration of the scope if this criterion is needed):

- APEO (alkylphenol ethoxylates) and APD (alkylphenol derivatives), excluded already in IILD
- Hydroxyisohexyl 3-cyclohexene carboxaldehyde (HICC), Atranol and Chloroatranol;

Consultation questions	
1	Is exclusion for APEO and APD substances required for this product group?
2	Are exclusions required for other substances?

Current criterion 4b

According to Article 6(6) of the Regulation (EC) No 66/2010 on the EU Ecolabel, the product or any part of it thereof shall not contain substances or mixtures meeting the criteria for classification with the hazard classes or categories in accordance with Regulation (EC) No 1272/2008 specified below nor shall it contain substances referred to in Article 57 of Regulation (EC) No 1907/2006.

List of hazard statements:

GHS Hazard Statement	EU Risk Phrase
H300 Fatal if swallowed	R28
H301 Toxic if swallowed	R25
H304 May be fatal if swallowed and enters airways	R65
H310 Fatal in contact with skin	R27
H311 Toxic in contact with skin	R24
H330 Fatal if inhaled	R23/26
H331 Toxic if inhaled	R23
H340 May cause genetic defects	R46
H341 Suspected of causing genetic defects	R68
H350 May cause cancer	R45
H350i May cause cancer by inhalation	R49
H351 Suspected of causing cancer	R40
H360F May damage fertility	R60
H360D May damage the unborn child	R61
H360FD May damage fertility. May damage the unborn child	R60/61/60-61
H360Fd May damage fertility. Suspected of damaging the unborn child	R60/63
H360Df May damage the unborn child. Suspected of damaging fertility	R61/62
H361f Suspected of damaging fertility	R62
H361d Suspected of damaging the unborn child	R63
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.	R62-63
H362 May cause harm to breast fed children	R64
H370 Causes damage to organs	R39/23/24/25/26/27/28
H371 May cause damage to organs	R68/20/21/22
H372 Causes damage to organs through prolonged or repeated exposure	R48/25/24/23
H373 May cause damage to organs through prolonged or repeated exposure	R48/20/21/22
H400 Very toxic to aquatic life	R50
H410 Very toxic to aquatic life with long-lasting effects	R50-53
H411 Toxic to aquatic life with long-lasting effects	R51-53
H412 Harmful to aquatic life with long-lasting effects	R52-53
H413 May cause long-lasting harmful effects to aquatic life	R53
EUH059 Hazardous to the ozone layer	R59
EUH029 Contact with water liberates toxic gas	R29
EUH031 Contact with acids liberates toxic gas	R31
EUH032 Contact with acids liberates very toxic gas	R32
EUH070 Toxic by eye contact	R39-41
Sensitising substances	
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled	R42
H317: May cause allergic skin reaction	R43

This criterion applies to all ingredients present in concentrations $\geq 0.010\%$, including preservatives, colouring agents and fragrances.

The use of substances or mixtures which upon processing change their properties (e.g. become no longer bioavailable, or undergo chemical modification) in a way that the previously identified hazard no longer applies are exempted from the above requirement. Derogations: the following substances or mixtures are specifically exempted from this

Proposal for criterion X(b) – "Hazardous substances and mixtures"

According to Article 6(6) of Regulation (EC) No 66/2010, the EU Ecolabel may not be awarded to any product that contains substances meeting criteria for classification with the hazard statements specified in Table 2 in accordance with Regulation (EC) No 1272/2008 of the European Parliament and of the Council or Council Directive 67/548/E or substances referred to in Article 57 of Regulation (EC) No 1907/2006.

The hazard statements in Table 2 generally refer to substances. However, if information on substances cannot be obtained, the classification rules for mixtures apply.

Substances or mixtures which change their properties through processing and thus become no longer bioavailable, or undergo chemical modification in a way that removes the previously identified hazard are exempted from criterion X(b).

Table 2: Hazard statements

GHS Hazard Statement
H300 Fatal if swallowed
H301 Toxic if swallowed
H304 May be fatal if swallowed and enters airways
H310 Fatal in contact with skin
H311 Toxic in contact with skin
H330 Fatal if inhaled
H331 Toxic if inhaled
H340 May cause genetic defects
H341 Suspected of causing genetic defects
H350 May cause cancer
H350i May cause cancer by inhalation
H351 Suspected of causing cancer
H360F May damage fertility
H360D May damage the unborn child
H360FD May damage fertility. May damage the unborn child
H360Fd May damage fertility. Suspected of damaging the unborn child
H360Df May damage the unborn child. Suspected of damaging fertility
H361f Suspected of damaging fertility
H361d Suspected of damaging the unborn child
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
H362 May cause harm to breast fed children
H370 Causes damage to organs
H371 May cause damage to organs
H372 Causes damage to organs through prolonged or repeated exposure
H373 May cause damage to organs through prolonged or repeated exposure
H400 Very toxic to aquatic life
H410 Very toxic to aquatic life with long-lasting effects
H411 Toxic to aquatic life with long-lasting effects
H412 Harmful to aquatic life with long-lasting effects
H413 May cause long-lasting harmful effects to aquatic life
EUH059 Hazardous to the ozone layer
EUH029 Contact with water liberates toxic gas
EUH031 Contact with acids liberates toxic gas
EUH032 Contact with acids liberates very toxic gas
EUH070 Toxic by eye contact
Sensitising substances
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
H317: May cause allergic skin reaction

This criterion applies to all ingredients present in concentrations $\geq 0.01\%$, including preservatives, colouring agents and fragrances.

For consumer laundry products, the substances in Table 3 are exempted from the obligation in Article 6(6) of Regulation (EC) No 66/2010 following application of Article 6(7) of the same Regulation.

Table 3: Derogated substances - To be discussed in the 1st AHWG meeting

Derogated substance	H phrases
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Assessment and verification: the applicant shall demonstrate compliance with criterion x(b) for any ingoing substance or mixture present at concentrations greater than 0.010% in the product.

A declaration of compliance shall be provided by the applicant supported, where appropriate, by the declarations from producer(s) of the raw materials that none of these ingoing substances and/or mixtures meet the criteria for classification with one or more of hazard statements listed in Table 2 in the form(s) and physical state(s) they are present in the product.

The following technical information related to the form(s) and physical state(s) of the ingoing substances and/or mixtures as present in the product shall be provided to support the declaration of non-classification:

(i) For substances that have not been registered under Regulation (EC) No 1907/2006 and/or which do not yet have a harmonised CLP classification: Information meeting the requirements listed in Annex VII to that Regulation;

(ii) For substances that have been registered under Regulation (EC) No 1907/2006 and which do not meet the requirements for CLP classification: Information based on the REACH registration dossier confirming the non-classified status of the substance;

(iii) For substances that have a harmonised classification or are self-classified: safety data sheets where available. If these are not available or the substance is self-classified then information shall be provided relevant to the substances hazard classification according to Annex II to Regulation (EC) No 1907/2006;

(iv) In the case of mixtures: safety data sheets where available. If these are not available then calculation of the mixture classification shall be provided according to the rules under Regulation (EC) No 1272/2008 together with information relevant to the mixtures hazard classification according to Annex II to Regulation (EC) No 1907/2006.

For substances listed in Annexes IV and V to Regulation (EC) No 1907/2006, which are exempted from registration obligations under point (a) and (b) of Article 2(7) of that Regulation, a declaration to this effect by the applicant shall suffice to comply with criterion x(b).

A declaration on the presence of ingoing substances that fulfil the derogation conditions shall be provided by the applicant, supported, where appropriate, by declarations from the producer(s) of the raw materials. Where required for the derogation, the applicant shall confirm the concentrations of these ingoing substances in the final product.

Rationale and discussion

Background information on the criterion for hazardous substance is given in the Technical Annexe (Section 7.10.2).

Assessment and verification

The assessment and verification has been updated to harmonise with a recently voted similar product group (ROC).

Consultation questions	
1	Do you have information which could substantiate keeping/removing the current derogations?
Current criterion 4c	
<p>a) Substances listed in accordance with Article 59(1) of Regulation (EC) No 1907/2006</p> <p>No derogation from the exclusion in Article 6(6) shall be given concerning substances identified as substances of very high concern and included in the list foreseen in Article 59 of Regulation (EC) No 1907/2006 present in mixtures in concentrations higher than 0,010 %.</p> <p>Assessment and verification: The list of substances identified as substances of very high concern and included in the candidate list in accordance with Article 59 of Regulation (EC) No 1907/2006 can be found here: http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp</p>	

Proposal for criterion X(c) – "Ingoing substances listed in accordance with Article 59(1) of Regulation (EC) No 1907/2006"

No derogation from the exclusion in Article 6(6) of Regulation (EC) No 66/2010 shall be given concerning ingoing substances identified as substances of very high concern and included in the list provided for in Article 59(1) of Regulation (EC) No 1907/2006¹⁰, present in the product in concentrations higher than 0.010 % (weight by weight).

Assessment and verification: *reference to the list of substances identified as substances of very high concern shall be made on the date of application. The applicant shall provide the full formulation of the product to the competent body. The applicant shall also provide a declaration of compliance with criterion 3(c), together with related documentation, such as declarations of compliance signed by the material suppliers and copies of relevant safety data sheets for substances or mixtures.*

Rationale and discussion

No content-wise changes are proposed. The text is proposed to be aligned with that of the corresponding criterion in the ROC criteria.

¹⁰ http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp

Current criterion 4d

(d) Specified limited ingredients – fragrances

Any ingredients added to the product as a fragrance shall be manufactured and handled following the code of practice of the International Fragrance Association (IFRA). The code can be found on IFRA website: <http://www.ifraorg.org>.

The recommendations of the IFRA Standards concerning prohibition, restricted use and specified purity criteria for materials shall be followed by the manufacturer.

Fragrance substances subject to the declaration requirement provided for in Regulation (EC) No 648/2004 of the European Parliament and of the Council on detergents (Annex VII) and which are not already excluded by criterion 4b and (other) fragrance substances classified H317 (May cause allergic skin reaction) and/or H334 (May cause allergy or asthma symptoms or breathing difficulties if inhaled) shall not be present in quantities $\geq 0.010\%$ (≥ 100 ppm) per substance.

Assessment and verification: The applicant shall provide a signed declaration of compliance indicating the amount of fragrances in the product. The applicant shall also provide a declaration from the fragrance manufacturer specifying the content of each of the substances in the fragrances which are listed in Annex III, Part I to Council Directive 76/768/EEC as well as the content of (other) substances which have been assigned the risk phrases H317/R43 and/or H334/R42.

Proposal for criterion X(d) - Fragrances

(i) Any [ingoing substance or mixture](#) added to the product as a fragrance shall be manufactured and handled following the code of practice of the International Fragrance Association (IFRA). The code can be found on the IFRA website: <http://www.ifraorg.org>. The recommendations of the IFRA Standards concerning prohibition, restricted use and specified purity criteria for materials shall be followed by the manufacturer.

(ii) Fragrance substances subject to the declaration requirement provided for in Regulation (EC) No 648/2004 of the European Parliament and of the Council on detergents (Annex VII) and which are not already excluded by criterion X(b) shall not be present in quantities $\geq 0.010\%$ (≥ 100 ppm) per substance.

Assessment and verification: *the applicant shall provide a signed declaration of compliance, supported by a declaration of the fragrance manufacturer, as appropriate, specifying the content of each of the substances in the fragrances which are listed in [Annex III of the Regulation \(EC\) No 1223/2009](#).*

Rationale and discussion

Background information on the criterion for fragrances is given in the Technical Annexe (Section 7.10.3).

No content-wise change is proposed to this criterion. The exclusion of specific fragrances (Hydroxyisohexyl 3-cyclohexene carboxaldehyde (HICC), Atranol and Chloroatranol) was added to the requirements on fragrances but included in the sub-criterion (a) on Specified excluded ingoing substances and mixtures.

Furthermore, the reference to the Directive 76/768/EEC (Cosmetics Directive) was changed to Regulation (EC) No 1223/2009 (Cosmetic Regulation).

Current criterion 4e

(e) Biocides

(i) The product may only include biocides in order to preserve the product, and in the appropriate dosage for this purpose alone. This does not refer to surfactants, which may also have biocidal properties.

Assessment and verification: The applicant shall provide copies of the material safety data sheets of any preservatives added, together with information on their exact concentration in the product. The manufacturer or supplier of the preservatives shall provide information on the dosage necessary to preserve the product (e.g. results of a challenge test or equivalent).

(ii) It is prohibited to claim or suggest on the packaging or by any other communication that the product has an antimicrobial or disinfecting effect.

Assessment and verification: The applicant shall provide texts and layouts used on each type of packaging and/or an example of each different type of packaging to the competent body.

Proposal for criterion X(e) – "Preservatives"

(i) The product may contain preservatives provided that they are not bioaccumulating. A preservative is not considered bioaccumulating if $BCF < 100$ or $\log P_{ow} < 3,0$. If both BCF and $\log K_{ow}$ values are available, the highest measured BCF value shall be used.

(ii) Preservatives in the product shall not release or degrade to substances that are classified in accordance with the requirements of criterion x(b) Hazardous substances and mixtures.

(iii) It is prohibited to claim or suggest on the packaging or by any other communication that the product has an antimicrobial action.

Assessment and verification: the applicant shall provide a signed declaration of compliance, together with copies of the safety data sheets of any preservative added, and information on its BCF and/or $\log K_{ow}$ values. The applicant shall provide also artwork of the packaging.

Rationale and discussion

Biocides are used in detergent products for preservation purposes. They prevent the product from spoiling during storage by preventing the growth of microorganisms. However, the use of biocides in detergent products is a cause for concern; they are highly toxic to aquatic organisms and can also produce hypersensitivity and allergies (for background information see the Technical Annexe (Section 7.10.4)).

In this revision the following changes are proposed:

- The name of sub-criterion is proposed to be changed to 'Preservatives'.
- The statement "Product may only include biocides in order to preserve the product, and in the appropriate dosage for this purpose alone. This does not refer to surfactants, which may also have biocidal properties" is proposed to be removed as CBs mentioned in the ROC criteria development process that they cannot verify the compliance with this requirement and it should be removed.
- A requirement that biocides included in the product shall not be bioaccumulating is proposed to be added to further harmonise the criteria of the six different detergent and cleaning product groups. Some EU Ecolabel criteria (i.e., for the IILD, IIDD and ROC), as well as Nordic Swan criteria for dishwasher detergents have a requirement that preservatives may only be used if they are not bioaccumulating. The motivation behind this requirement is that substances that bioaccumulate collect in the fat tissues of living organisms and can cause long-lasting damage.
- Finally, in the recent criteria developments it was pointed out that sometimes preservatives may release or degrade to substances that are even more hazardous

than the preservatives used. Therefore an additional requirement is proposed for consideration: *Preservatives in the product shall not release or degrade to substances that classified in accordance with the requirements of criterion x(b) Hazardous substances and mixtures.*

Consultation questions

1	Do you agree with the changes proposed to requirement on preservatives?
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Proposal for criterion X(f) – Colorants **NEW REQUIREMENT**

Colorants in the product must not be bioaccumulating. A colorant is considered not bioaccumulating if $BCF < 100$ or $\log P_{ow} < 3.0$. If both BCF and $\log K_{ow}$ values are available, the highest measured BCF value shall be used. In the case of colouring agents approved for use in food, it is not necessary to submit documentation of bioaccumulation potential.

Assessment and verification: the applicant shall provide copies of the safety data sheets of any colorant added together with information on its BCF and/or $\log K_{ow}$ value, or documentation to ensure that the colouring agent is approved for use in food.

Rationale and discussion

The inclusion of this criterion is proposed in order to harmonise the different criteria sets.

For more information on colorants see the Technical Annexe (Section 7.10.6).

Proposal for criterion X(g) – Enzymes **NEW REQUIREMENT**

Enzymes must be in liquid form or dust-free granulate. Enzymes must be free from micro-organism remnants from manufacture.

Assessment and verification: the applicant shall provide copies of the material safety data sheets of any enzyme added, together with documentation to ensure that the enzyme is free from micro-organism remnants.

Rationale and discussion

The inclusion of this criterion is proposed in order to harmonise the different criteria sets.

For more information on colorants see the Technical Annexe (Section 7.10.2.4).

Proposal for criterion X(h) – Phosphorus content

The total content of phosphorus in the product is limited to 0,03 Pg/kg laundry.

Phosphonates which are not readily biodegradable shall not be included in the product, neither as part of the formulation nor as part of any mixture included in the formulation

Assessment and verification: The applicant shall provide written statements on compliance, including:

- information on the complexing agents in the product (detail information of the type of phosphorus-content substances added as ingredients);
- information on the recommended dose for different levels of soiling or water hardness (when applicable);
- calculation of the product's total P-content

Rationale and discussion

Phosphorous is a source of eutrophication of water bodies. Information on its environmental impacts is reported in the Technical Annexe (Section 7.10.1.1).

The Detergents Regulation has recently been reviewed and addressed the use of phosphates, introducing a limitation on the use of phosphates and other phosphorous compounds in household detergents (< 0,5g per dose for the main cycle of wash process). Phosphates are already banned in laundry detergents in a range of other European countries and many of the retailers in Europe have voluntarily decided to phase out phosphates. High market shares of phosphate free detergents are already a reality in several European countries¹¹.

Phosphates have been replaced in many products by phosphonates or phosphonic acids. One of the uses of phosphonates in laundry detergents is to stabilise peroxy bleaches, this is achieved through inactivating metal ions that catalyse peroxide decomposition¹². The majority of phosphonates found in detergents will end up in sewage sludge. Due to their low terrestrial toxicity, this is not a cause for concern.

In order to limit the environmental impact caused by phosphorus-content compounds, two measures are generally implemented in the ecolabel schemes. The first one, and in line with the Detergent Regulation, is the restriction in the total amount of phosphorus in the products. This approach has also been implemented by national regulations such as the Swedish and Finnish ones that limit the content of phosphorus up to 0,2 wt%. The second one is the restriction of using phosphates and/or not biodegradable phosphonates. This approach has been undertaken mainly in ecolabel schemes such as Good environmental Choice label.

The revision of the EU ecolabel criterion will consider a limitation in the total content of phosphorus in the product and a ban for phosphates and phosphonates that don't comply with certain requirements.

Consultation questions

1	Do you agree with the proposed requirements on colorants and enzymes?
2	Do you agree with the proposed limitation on phosphorus content?

¹¹ Opinion of the scientific committee on toxicity, ecotoxicity and the environment on "the environmental impact (reduction in eutrophication) that would result from banning sodium tripolyphosphate (STPP) in household detergents" adopted 12-13 November 2003

¹² Polyphosphonates (phosphonic acids), ingredient safety information, P&G Environmental Science data.

1.8.7 Criterion 5: Packaging requirements

Current criterion 5

a) Weight/utility (WUR):

The weight/utility ratio (WUR) of the product shall not exceed the following values:

Product type	WUR
Powders	1.2 g/kg wash
Others (e.g. liquids, gels, tablets, capsules)	1.5 g/kg wash

Exceptions:

Plastic/paper/cardboard packaging containing more than 80% recycled material is exempted from this requirement.

Packaging is regarded as recycled if the raw material used to make the packaging has been collected from packaging manufacturers at the distribution stage or at the consumer stage. Where the raw material is industrial waste from the material manufacturer's own production process, then the material will not be regarded as recycled.

Assessment and verification: Calculation of the WUR of the product. A spreadsheet for this calculation is available on the EU Ecolabel website. Account on the content for recycled material in the packaging. For approval of refill packaging, the applicant and/or retailer shall document that the refills will be/are available for purchase on the market.

b) Plastic packaging:

Only phthalates that at the time of application have been risk assessed and have not been classified according to criterion 4(b) (and combinations hereof) may be used in the plastic packaging.

c) Labelling of plastic packaging:

To allow for identification of different parts of the packaging for recycling, plastic parts in the primary packaging must be marked in accordance with DIN 6120, Part 2 or the equivalent. Caps and pumps are exempted from this requirement.

Assessment and verification: The applicant shall provide a test report indicating that the product fulfils the minimum requirements defined in this text.

Proposal for criterion 5 – "Packaging"

a) Weight/utility ratio (WUR)

The weight/utility ratio (WUR) of the product shall be calculated for the primary packaging only and shall not exceed the following values for the reference dosage:

Product type	WUR
Powders	1,2 g/kg wash
Others (e.g. liquids, gels, tablets, capsules)	1,5 g/kg wash

Are exempted from this requirement:

- Plastic/paper/cardboard packaging containing more than 80 % recycled materials,
- Paper/cardboard packaging that comes 80% from certified sustainable sources,
- Plastic packaging containing more than 80 % plastic from sustainable sources.

Assessment and verification: the applicant shall provide the calculation of the WUR of the product. A spreadsheet for this calculation is available on the EU Ecolabel website. If the product is sold in different packaging (i.e. with different volumes), the calculation shall be submitted for each packaging size for which the EU Ecolabel shall be awarded.

The applicant shall provide a completed and signed declaration for the content of recycled material in the packaging.

- For paper and cardboard, packaging is regarded as recycled if the raw material used to make the packaging has been collected from packaging manufacturers at the distribution stage or at the consumer stage. Where the raw material is industrial waste from the material manufacturer's own production process, then the material will not be regarded as recycled.

- For plastic, packaging is regarded as recycled if the raw material used to make the packaging comes from [industrial waste](#) or has been collected from packaging manufacturer at the distribution or at the consumer stage.

The applicant shall provide a completed and signed declaration for the content of sustainably sourced material in the packaging. For paper and cardboard, the applicant shall provide TBD. For plastic, the applicant shall provide TBD.

The WUR is calculated as follows:

$$WUR = \sum ((W_i + U_i) / (D_i * R_i))$$

Where:

W_i : weight (g) of the primary packaging (i),

U_i : weight (g) of non-recycled and non-sustainably sourced packaging in the primary packaging (i). $U_i = W_i$ unless the applicant can document otherwise,

D_i : number of reference doses contained in the primary packaging (i),

R_i : number of times that the primary packaging (i) can be refilled and used for the same purpose. $R_i = 1$ (packaging is not reused for the same purpose) unless the applicant can document a higher number.

b) Design for recycling

Plastic packaging shall be designed to facilitate effective recycling by avoiding potential contaminants and incompatible materials that are known to impede separation or reprocessing or to reduce the quality of recyclate. The label or sleeve, closure and, where applicable, barrier coatings shall not comprise, either singularly or in combination the materials and components listed in Table 4. Pumps are exempted from this requirement.

Table 4: Materials and components excluded from packaging elements

Packaging element	Excluded materials and components ¹³
Label or sleeve	<ul style="list-style-type: none"> - PS label or sleeve in combination material used with a PET, PP or HDPE bottle - PVC label or sleeve in combination with a PET, PP or HDPE bottle - PETG label or sleeve in combination with a PET bottle - Sleeves made of different polymer than the bottle - Labels or sleeves that are metallised or are welded to a packaging body (in mould labelling)
Closure	<ul style="list-style-type: none"> - PS closure in combination a with a PET, HDPE or PP bottle - PVC closure in combination with a PET, PP or HDPE bottle - PETG closures and/or closure material with density of above 1 g/cm³ in combination with a PET bottle - Closures made of metal, glass, EVA - Closures made of silicone. Exempted are silicone closures with a density < 1 g/cm³ in combination with a PET bottle and silicone closures with a density > 1g/cm³ in combination with PEHD or PP bottle - Metallic foils or seals which remain fixed to the bottle or its closure after the product has been opened
Barrier coatings	Polyamide, EVOH, functional polyolefins, metallised and light blocking barriers

Assessment and verification: The applicant shall submit a signed declaration of compliance specifying the material composition of the packaging including the container, label or sleeve, adhesives, closure and barrier coating, and a sample of primary packaging.

Rationale and discussion

From a life cycle perspective, packaging is not the most important environmental impact for laundry detergents but can represent up to 24% of impact contribution for agricultural land occupation when non-recycled material is used in the packaging (Section 4.4 of the Preliminary Report), for example. It is therefore proposed that a criterion on packaging is kept present in the EU Ecolabel for laundry detergents.

Further information on the wording of the proposed criterion and background information on packaging can be found in the Technical Annexe (Section 7.11).

a) Weight/Utility Ratio (WUR)

No changes are proposed to the WUR values, as mixed feedback was received on the subject. Some stakeholders suggested tightening the limits while others would prefer to see them increased, as to ensure that the quality of the packaging does not suffer. Overall, the only change proposed is to consider the percentage of recycled and sustainably sourced materials when calculating WUR, in order to promote the use of these types of materials.

Further information on this aspect can be found in the Technical Annexe (Sections 7.11.3.1 and 7.11.3.2).

b) Design for recycling

In line with the EU Ecolabel on Rinse-off cosmetics, it is proposed to remove the requirement on the labelling of plastics parts but instead to promote the recyclability of packaging by avoiding combinations of incompatible materials and potential contaminants.

Further information on this aspect can be found in the Technical Annexe (Section 7.11.3.4).

¹³ EVA – Ethylene Vinyl Acetate, EVOH – Ethylene vinyl alcohol, HDPE – High-density polyethylene, PET – Polyethylene terephthalate, PETG – Polyethylene terephthalate glycol-modified, PP – Polypropylene, PS – Polystyrene, PVC – Polyvinylchloride

Consultation questions

1	Packaging is not one of the top 5 KPIs for laundry detergents, should a criterion related to it be kept?
2	Are the WUR limits appropriate?
3	Is the design for recycling requirement suitable for this product group?

1.8.8 Criterion 6: Fitness for use

Current criterion 6

The product shall comply with the performance requirements as specified for the relevant product type according to the EU Ecolabel laundry detergents performance test's latest version *which can be found here: <http://ec.europa.eu/environment/ecolabel/products-groups-and-criteria.html>*

Assessment and verification: The applicant shall provide a test report indicating that the product fulfils the minimum requirements defined in this test.

Proposal for criterion 6

Tests shall be carried out to ensure that the product has a satisfactory wash performance at the lowest recommended dosage for the water hardness according to the EU Ecolabel protocol available at: <http://ec.europa.eu/environment/ecolabel/documents/Performance%20Test%20Laundry%20Detergents.pdf>
The tests shall be carried out at the water temperature stated in the protocol or at the lowest temperature the product claims to be effective at. The test shall be performed by a laboratory complying with Appendix (to be added)

Assessment and verification The applicant shall provide documentation confirming that the product has been tested under the protocol conditions and that the results passed the minimum washing performance required. Information should be provided on the compliance within the laboratory requirements included in Appendix (to be added)

Rationale and discussion

A revised EU Ecolabel performance test for laundry detergents was introduced in 2014 (20/06/2014) as a separate activity to this EU Ecolabel criteria revision. It is intended to be used directly as evidence of compliance with the fitness for use criterion.

This criterion ensures that the product is fit to wash at low temperatures as the protocol proposes cycles to test the consumer laundry detergents and other products that vary from 15 to 30C. The maximum of 30C in the newly updated protocol is lower than the previous maximum washing temperatures and lower than the current average washing temperature used across Europe (41C¹⁴). As one key aspect of convincing users to opt for lower washing temperatures is to ensure that the products they use are effective at these temperatures, requiring for all tests to be performed at 30C is crucial.

If fabric softeners are to be included in the product group a performance test for them is required as they are not included in the current fitness for use test for laundry detergents. During the previous revision, the following test guidelines for fabric softeners were developed:

"The performance of the product shall be documented by a relevant test for inhibition of static electricity in synthetic materials or other relevant documentation. The test can be a laboratory test, the applicant's internal quality test, a consumer test or a comparative test with a corresponding product. If a washing test is performed, the washing temperature shall be max. 40 °C and the water hardness shall be 2,5 mmol CaCO₃/l (equivalent to 14 °dH, medium European water hardness). The general conditions for a consumer test are described in Appendix III".

In line with the updated testing requirements for detergents, the maximum testing temperature for fabric softeners, should they be included in the scope, would be lowered to 30C.

For further information please refer to the Technical Annexe (Section 7.12).

Consultation questions

¹⁴ AISE "I prefer 30" substantiation dossier, June 2013

1	Do you agree with the requirement on wash performance at low temperatures?
2	Are any other changes required for this criterion?

1.8.9 Criterion 7: Points

Current criterion 7

a) Heavy-duty laundry detergents, Colour-safe laundry detergents:

A minimum of 3 points shall be achieved from the matrix below. The maximum achievable points are 8 points for coldwater products, 7 points for low-temperature and 6 points for other products.

Climate profile	Coldwater product (washing performance documents at ≤ 20 °C)	2P
	Low-temperature product (washing performance documented at >20 °C to <30 °C)	1P
Maximum dosage	Max dosage ≤ 14 g/kg wash (powder/tablet) or ≤ 14 ml/kg wash (liquid/gel)	2P
	Max dosage ≤ 16 g/kg wash (powder/tablet) or ≤ 16 ml/kg wash (liquid/gel)	1P
CDV	CDVchronic $<25,000$ l/kg wash	2P
	CDVchronic between 25,000 to 30,000 l/kg wash	1P
aNBO	aNBO ≤ 75 % of limit value	1P
anNBO	anNBO ≤ 75 % of limit value	1P
Minimum points to be achieved in order to be awarded EU Ecolabel		3P

b) Low-duty laundry detergents:

A minimum of 3 points shall be achieved from the matrix below. The maximum achievable points are 8 points for coldwater products, 7 points for low-temperature products and 6 points for other products.

Climate profile	Coldwater product (washing performance documented at ≤ 20 °C)	2P
	Low-temperature product (washing performance documented at >20 °C to <30 °C)	1P
Maximum dosage	Max dosage ≤ 14 g/kg wash (powder/tablet) or ≤ 14 ml/kg wash (liquid/gel)	2P
	Max dosage ≤ 16 g/kg wash (powder/tablet) or ≤ 16 ml/kg wash (liquid/gel)	1P
CDV	CDVchronic $<15,000$ l/kg wash	2P
	CDVchronic between 15,000 to 18,000 l/kg wash	1P
aNBO	aNBO ≤ 75 % of limit value	1P
anNBO	anNBO ≤ 75 % of limit value	1P
Minimum points to be achieved in order to be awarded EU Ecolabel		3P

Assessment and verification: Calculation of the sum of points achieved for the product. A spreadsheet for this calculation is available on the EU Ecolabel.

Proposal for criterion 7

The points system is removed.

Rationale and discussion

During the previous revision, the points system was introduced in order to promote cold-water and low-temperature products, which reduce the energy consumption during the use phase linked to the main environmental impact of laundry detergents. The scoring system aimed to address the trade-offs in CDV, aNBO, anNBO, dosage and packaging which were thought to be required for low-temperature formulations. However, in practice, the points system turned out to be confusing and too easy to pass as developments in formulation have negated the need for large trade-offs for achieving low-temperature performance.

As long ago as 2006, Procter and Gamble's analysis (Comparative Life Cycle Assessment (LCA) of Ariel "Actif à froid" (2006), a laundry detergent that allows to wash at colder wash temperatures, with previous Ariel laundry detergents (1998, 2001)) calculated no detrimental aquatic toxicity from the reformulated low temperature product. Given the developments in chemistry since that time, there seems to be little case for supporting a criterion which allows a trade-off between these two parameters. *For further information on the effects of wash*

temperature on the overall environmental impact of the product, please see the Preliminary Report (Chapter 4) and the Technical Annexe (Section 7.7.2).

As washing temperature plays contributes to the environmental impacts of laundry detergents, it is proposed to mainly tackle it with the "Fitness for use" criterion and the requirement for all detergents to be proved efficient at a maximum of 30C. Section 7.7.2 of the Technical Annexe discusses in more detail how washing water temperature can be addressed in order to promote low or cold water use among consumers.

Consultation questions	
1	Should the points system be removed?
2	Are there any other requirements which can be used to encourage the use of lower temperature wash cycles?

1.8.10 Criterion 8: Consumer information

Current criterion 8

a) Dosage instructions:

The recommended dosages shall be specified for 'normally' and 'heavily' soiled textiles and various water hardness ranges relevant to the countries concerned and referred as appropriate to the weight of textile. (Not applicable for stain removers).

The difference between the dosage recommendations for the lowest water hardness range (soft) for normally soiled textiles and the highest water hardness range (hard) for heavily soiled textiles may not differ by more than a factor of 2. (Not applicable for stain removers).

The reference dosage used for the washing performance test and for assessment of compliance with the ecological criteria on ingredients shall be the same as the recommended dosage on the package for 'normally soiled' textiles and a water hardness corresponding to 2.5 mmol CaCO₃ /l.

Where only water hardness lower than 2.5 mmol CaCO₃ /l are included in the recommendations, the maximum dosage recommended for 'normally soiled' shall be lower than the reference dosage used in the washing performance test (water hardness 2.5 mmol CaCO₃ /l).

b) Information appearing on the packaging:

The following washing recommendations (or equivalent) shall appear on the packaging of EU Ecolabelled products within the product group except pre-treatment stain removers. The washing recommendations may be present either as text or symbols:

- Wash at the lowest possible temperature
- Always wash with full load
- Dose according to soil and water hardness, follow the dosing instructions
- If you are allergic to house dust, always wash bedding at 60 °C. Increase wash temperature to 60 °C in case of infectious diseases.
- Using this EU Ecolabelled product according to the dosage instructions will contribute to the reduction of water pollution, waste production and energy consumption.'

c) Claims on the packaging:

In general, claims on the packaging shall be documented either through performance testing or other documentation (e.g. claims of efficiency at low temperatures, claims of removal of certain stain types, claims of benefits for certain types or colours of textile or other claims of specific properties/benefits of the product).

- e.g. if a product claims efficiency at 20 °C, the efficiency test must be performed at ≤ 20 °C (and correspondingly for other temperature claims below 30 °C).EN L 111/44 Official Journal of the European Union 30.4.2011
- e.g. if a product claims to be efficient on certain stain types, this must be documented with efficiency test.

d) Information on the packaging – additional requirements for stain removers:

The removal of stains, for which no performance test has been conducted, shall not be claimed on the product.

Assessment and verification (a-d): The applicant shall provide a sample of the product label, together with a declaration of compliance with this criterion. Product claims shall be documented through appropriate test reports or other relevant documentation.

Proposal for criterion 8 – "User information"

The detergent shall be accompanied by instructions for proper use so as to maximise product performance and minimise waste. These instructions shall be legible or include graphical representation or icons and include information on:

a) dosing instructions

The primary packaging shall include information on the recommended dosage in g or ml for a standard load for at least two levels of soiling. A second well-known metric may be given in brackets. If the packing has an efficient and convenient dosage system that can provide an equally reliable dosage, an alternative metric (e.g. capsules, squirts, or other) can be used. The dosing instructions shall include information on the impact of water hardness on dosing and indicate the most prevalent water hardness in the area where the product is intended to be marketed or where this information can be found.

b) resource saving measures

An indication on the primary packaging shall encourage users to wash at the lowest appropriate temperature: the applicant shall recommend washing at the lowest temperature the product claims effectiveness, which shall not be higher than 30C, and recommend washing beddings and cloths at 60C if the users suffer from allergies to house dust or infectious diseases.

An indication on the primary packaging shall encourage users to wash full loads.

c) packaging disposal information

The primary packaging shall include information on the reuse, recycling and/or correct disposal of packaging.

d) environmental information (voluntary)

The following text is recommended to appear on the primary packaging but its use is voluntary:

"All detergents have an effect on the environment. Always use the correct dose for maximum effectiveness, the lowest recommended temperature. This will minimize both energy and water consumption and reduce water pollution".

Assessment and verification: The applicant shall provide a sample of the product packaging, including the label.

Rationale and discussion

Information appearing on the packaging provides useful information on how the consumer should use the product most effectively to achieve the best cleaning results whilst minimising the environmental impacts.

Further information about the key issues where the information should be provided is included in the Technical Annexe (Section 7.12).

Consultation questions	
1	Is the change to the wash temperature recommendation acceptable?
2	Is a statement on overdosing required as part of the consumer information criterion?
3	Is the change to the dosage instruction wording acceptable?
4	Should recycling labels be included on laundry detergent packaging?
5	Should the requirement for the applicant to include a recommendation on washing temperature in case of allergies and infectious diseases be kept in the criterion text?

1.8.11 Criterion 9: Information appearing on the EU Ecolabel

Current criterion 9

Optional label with text box shall contain the following text:

- ‘— Reduced impact on aquatic ecosystems
- Limited hazardous substances
- Performance tested.’

The guidelines for the use of the optional label with text box can be found in the ‘Guidelines for use of the Ecolabel logo’ on the website: http://ec.europa.eu/environment/ecolabel/promo/logos_en.htm

Assessment and verification: The applicant shall provide a sample of the label.

Proposal for criterion 9

The logo should be visible and legible. The use of the EU Ecolabel logo is protected in primary EU law. The EU Ecolabel registration/licence number must appear on the product and it must be legible and clearly visible.

Optional label with text box shall contain the following text:

- ‘— Harm to aquatic life is limited
- Amount of hazardous substances is restricted
- Tested for wash performance’

Assessment and verification: The applicant shall provide a sample of the product label or an artwork of the packaging where the EU Ecolabel is placed, together with a signed declaration of compliance.

Rationale and discussion

The information displayed in the EU Ecolabel should be visible, legible and accompanied by the licence number. The text included is proposed to be harmonized among the EU Ecolabel criteria for detergents. Further information can be found in the Technical Annexe (Section 7.14).

Consultation questions

- | | |
|---|---------------------------------------|
| 1 | Are the proposed statements suitable? |
|---|---------------------------------------|

1.8.12 Criterion NEW - Sustainable sourcing of palm oil, palm kernel oil and their derivatives

Proposed addition

Ingredients used in the product which are derived from palm oil or palm kernel oil must be sourced from plantations that meet the criteria for sustainable management that have been developed by multi-stakeholder organisations who have a broad based membership including NGOs, industry and government.

Assessment and verification: the applicant shall provide third-party certifications that the palm oil used in the manufacturing of the product originates from sustainable managed plantations. Certifications accepted shall include RSPO (by identified preserved, segregates or mass balance) or any equivalent scheme based on multi-stakeholder sustainable management criteria. For chemical derivatives of palm oil it is acceptable to demonstrate sustainability for these through book and claim systems such as GreenPalm or equivalent.

Rationale and discussion

Further information on this criterion can be found in of the Technical Annexe (Section 7.15).

1.9 Appendix

1.9.1 Appendix 1: Analysis of CDV values

Product type	Countries where product is sold	Dosage
Heavy duty, (uni-dose capsule)	Italy	27,304
Heavy duty (liquid)	France, Italy, Belgium, Netherlands, Portugal	30,510
Heavy duty (liquid)	France, Netherlands	30,567
Heavy duty (liquid)	France, Poland	31,550
Heavy duty (liquid)	France, Belgium	30,512
Heavy duty (liquid)	All EU	19,647
Heavy duty (liquid)	All EU	20,589
Heavy duty (liquid)	Germany, Poland, Czech Republic, Hungary, Turkey, Albania, the Baltics, Russia and Ukraine	21,317
Heavy duty (liquid)	Germany	23,096
Heavy duty (liquid)	France, Belgium, Poland, UK, Portugal	31,030.5
Heavy duty (liquid)	France, Holland	31,314.5
Heavy duty (liquid - capsule)	France, Italy, Belgium, Netherlands, Portugal	26,724
Heavy duty (powder)	Austria	30,695
Heavy duty (powder)	Russia	11,040
Heavy duty (powder)	France	24,053
Heavy duty (powder)	France	15,084
Heavy duty (powder)	France, Spain, Holland, Poland, Germany, Italy, Greece, England and Turkey	22,263
Heavy duty (powder)	France, Spain, Holland, Poland, Germany, Italy, Greece, England and Turkey	22,595
Heavy duty (powder)	Denmark	17,948
Heavy duty (powder)	Romania	14,169
Heavy duty (powder)	Romania	14,308
Heavy duty (powder)	Germany, Poland, Czech Republic, Hungary, Lithuania and Ukraine	21,018
Heavy duty (powder)	Germany	27,783
Heavy duty (powder)	All EU	15,865
I&l Heavy duty (powder)	Belgium, France	34,675
Laundry detergent (unknown)	Sweden	18,490
Laundry detergent (unknown)	Austria	29,068

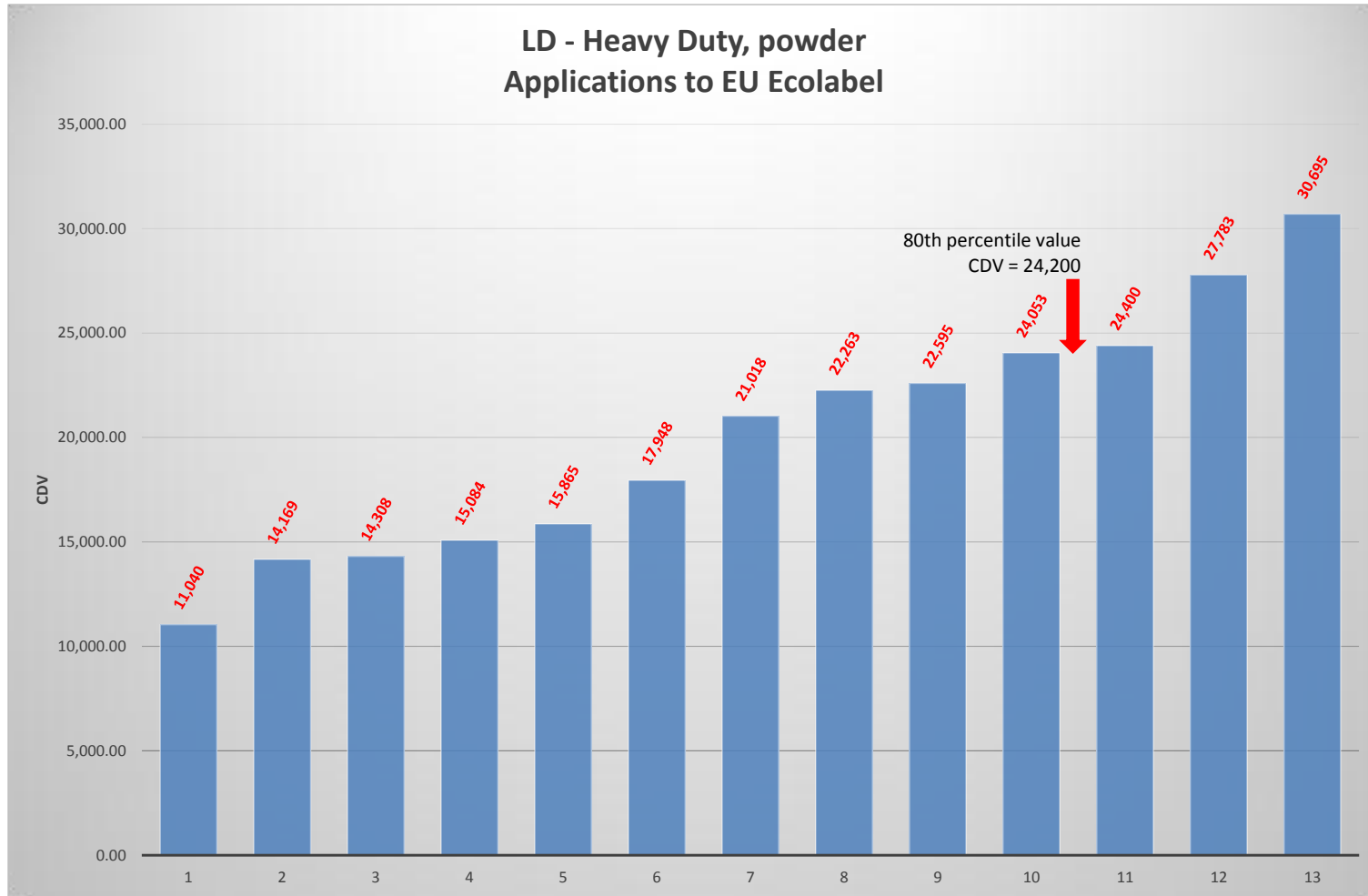


Figure 4: Chart of CDVs of EU Ecolabel applicants for Laundry Detergents - Heavy Duty, powder

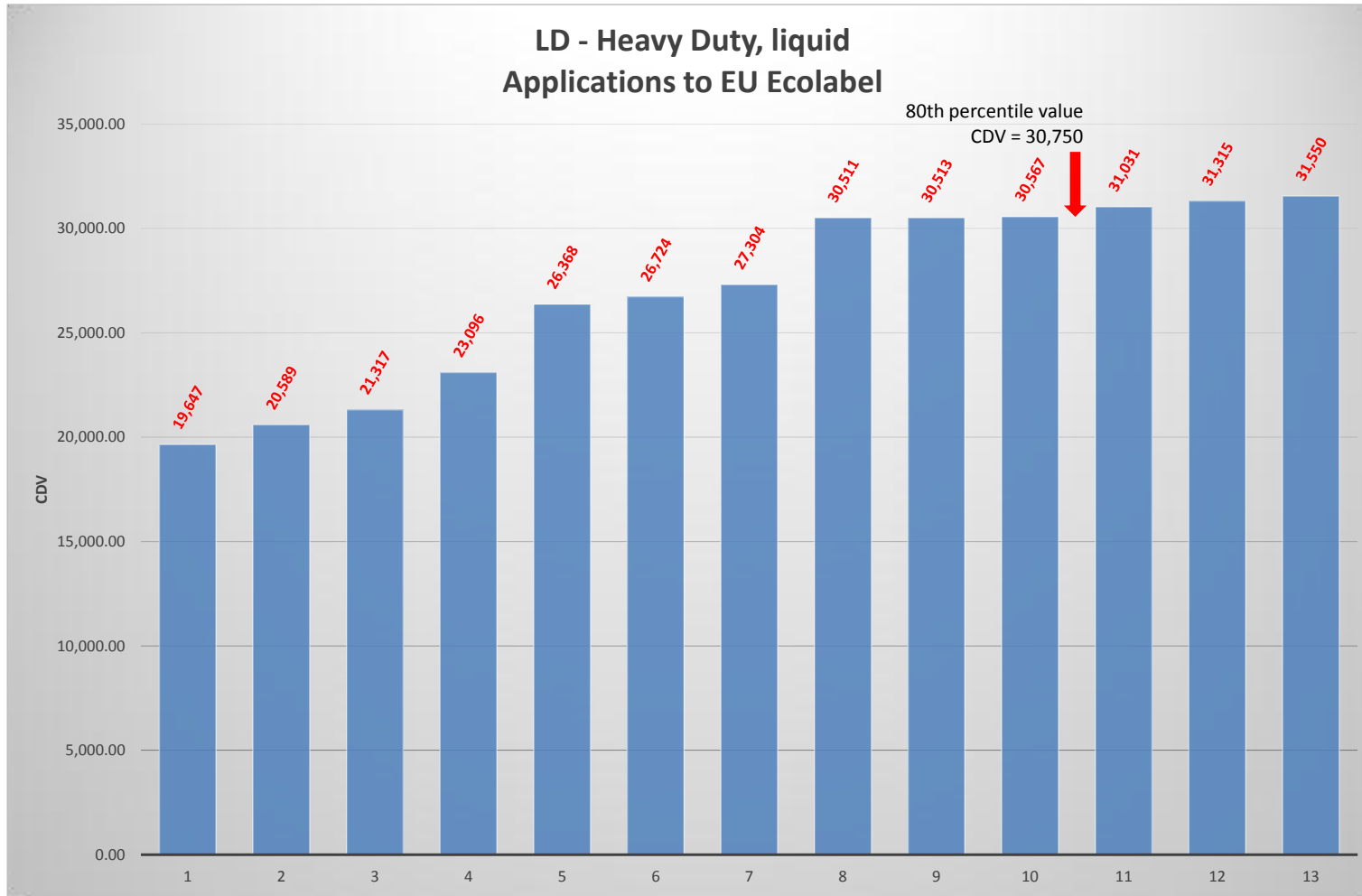


Figure 5: Chart of CDVs of EU Ecolabel applicants for Laundry Detergents - Heavy Duty, liquid

1.9.2 Appendix 2: Analysis of product dosages

Product type	Format	Ecolabel Y/N	Dosage ml or g per kg wash
Heavy duty	Liquid - concentrated	N	7.78
Heavy duty	Liquid	N	11.11
Heavy duty	Liquid	N	7.78
Heavy duty	Liquid	N	11.11
Heavy duty	Liquid	Y	8.31
Heavy duty	Liquid	Y	14.95
Heavy duty	Liquid	Y	8.31
Heavy duty	Liquid	Y	10.60
Heavy duty	Liquid	Y	11.10
Heavy duty	Liquid	Y	14.40
Heavy duty	Liquid	Y	14.40
Heavy duty	Liquid	Y	8.31
Heavy duty	Liquid	Y	14.95
Heavy duty	Liquid	Y	17.00
Heavy duty	Liquid - capsule	Y	4.66
Heavy duty	Liquid - concentrated	N	6.67
Heavy duty	Gel	N	8.22
Heavy duty	gel	N	8.22
Heavy duty	Unit-dose	Y	4.67
Heavy duty	Powder	N	22.22
Heavy duty	Powder	N	17.78
Heavy duty	Powder	N	14.44
Heavy duty	Powder	N	15.78
Heavy duty	Powder	N	16.67
Heavy duty	Powder - compacted	N	14.4
Heavy duty	Powder	N	15.78
Heavy duty	Powder	N	17.78
Heavy duty	Powder	Y	16.88
Heavy duty	Powder	Y	15.00
Heavy duty	Powder	Y	16.90
Heavy duty	Powder	Y	11.11
Heavy duty	Powder	Y	15.00
Heavy duty	Powder	Y	15.00
Heavy duty	Powder	Y	15.00
Heavy duty	Powder	Y	10.00
Heavy duty	Powder	Y	15.00
Heavy duty	Powder	Y	15.00
Heavy duty	Powder	Y	11.24
Heavy duty	Powder	Y	15.00
Heavy duty	Powder	Y	10.00
Heavy duty	Powder	Y	16.62
Low duty	Liquid	N	10.00
Low duty	Liquid	N	6.67
Low duty	Liquid	N	11.11

Product type	Format	Ecolabel Y/N	Dosage ml or g per kg wash
Low duty	Liquid	N	8.00
Low duty	Liquid	N	9.33



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J R C T E C H N I C A L R E P O R T S

2 INDUSTRIAL AND INSTITUTIONAL LAUNDRY DETERGENTS

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2.1 Introduction

The following Technical Report presents a proposal of revised EU Ecolabel criteria for the product group of "industrial and institutional laundry detergents" (IILD). The study has been carried out by the Joint Research Centre's Institute for Prospective Technological Studies (JRC-IPTS) with technical support from Oakdene Hollins and PRé Consultants. The work is being developed for the European Commission's Directorate General for the Environment.

The recommendations for the revision of the current criteria are based on technical analysis, including a Life Cycle Assessment (LCA) assessing the environmental impacts of products covered by the scope of the product group and other scientific sources, and input received from stakeholders.

This document is complemented by the Preliminary Report¹⁵ on the revision of the European Ecolabel criteria for laundry detergents: domestic and industrial and institutional and a Technical Annexe. The Preliminary Report covers in detail areas such as: scope and legislative analysis (Task 1), market analysis (Task 2), technical analysis (Task 3) and improvement potential (Task 4). The Technical Annexe is common to all detergent product groups as they share common issues and the revisions of their EU Ecolabel criteria are being done at the same time in order to facilitate harmonisation between criteria, where appropriate.

In all, there are six sets of EU Ecolabel criteria in the detergent product groups. These are:

- laundry detergents (LD),
- industrial and institutional laundry detergents (IILD),
- detergents for dishwashers (DD),
- industrial and institutional automatic dishwasher detergents (IIDD),
- hand dishwashing detergents (HDD),
- all-purpose cleaners and sanitary cleaners (APC).

The present document is specific to the set of criteria related to the EU Ecolabel for industrial and institutional laundry detergents. Its main purpose is to summarise the proposed criteria changes as well as provide a brief overview of background information related to each criterion and the rationale behind the proposal. Where these are common for different EU Ecolabel product groups and/or are due to harmonisation efforts, reference is made to a section of the Technical Annexe. Both documents, as well as the Preliminary Report, should be consulted to gain a full understanding of this revision process.

It should be noted that the EU Ecolabel criteria for laundry detergents (LD) are being revised in parallel. Due to the similarities in criteria, chemical constituents of the products involved and the overlap of stakeholders, a common Preliminary Report has been written. However, a separate Technical Report has been produced for each EU Ecolabel under revision. Nevertheless, as harmonisation of criteria across product groups is within the scope of this work, the rationale and commentary of the Technical Reports frequently compares and contrasts current criteria corresponding to the other detergent products being revised.

A revision of EU Ecolabel criteria must ensure that, based on impacts of the products covered by the EU Ecolabel for "industrial and institutional laundry detergents" at all life-cycle stages:

- The existing criteria are still relevant and that appropriately challenging targets, thresholds or usage information are established based on the latest knowledge of market norms, user behaviours, life-cycle impacts and hazards.
- Any new candidates for criteria suggested by either the LCA or the stakeholder survey are adequately considered and evaluation criteria justified.
- Opportunities to rationalise criteria, i.e. remove, simplify and combine (within the group) or harmonise (between product groups), are examined and justified.

The main criteria changes proposed in this report are as follows:

- A clarification in the scope text on multi-component systems.

¹⁵ <http://susproc.jrc.ec.europa.eu/detergents/stakeholders.html>

-
- An update of several criteria with revised values and new values for categories of products that are not covered in the current criteria.

2.2 Preliminary report – summary and links to the revision and/or development of eu ecolabel criteria

The Preliminary Report presents the research carried out, through stakeholder surveys, market analysis, legal review and an environmental performance investigation, on areas related to the product groups covered by the EU Ecolabel on industrial and institutional laundry detergents. The preliminary report is a document that provides the background information and underpins the new criteria proposal for two product groups: laundry detergents and industrial and institutional laundry detergents, due to their multiple overlaps.

The main findings of the Preliminary Report are:

-The *legal review* revealed that the 2012 Revision to the EU Detergents Regulation (EU/259/2012)¹⁶ will limit the use of phosphates and phosphorus compounds in consumer automatic dishwasher detergents, but does not cover industrial and institutional dishwasher detergents.

-The *market analysis* revealed that IILDs only account for 4 % of the retail value of the EU market for laundry detergent products.

-The *technical analysis* revealed that the key environmental impacts associated with the product group can be summarised as follows:

- The life cycle stage with the largest contribution to the environmental impact profile of laundry detergents is the use phase, particularly the energy needed to heat the water for the wash cycle. For some impact categories, the sourcing of raw materials is also important.
- Based on the normalisation assessment, the most significant impact categories for laundry detergents in Europe are Freshwater Eutrophication, Human Toxicity, Freshwater Ecotoxicity, Marine Ecotoxicity, and Natural Land Transformation.

The results of the LCA for a consumer powder laundry detergent conducted as part of the technical analysis showed that the environmental impacts are strongly correlated to each other via the energy use in the use phase (with the exception of Natural Land Transformation). The use phase dominates the impact categories Freshwater Eutrophication, Human Toxicity, and Marine Ecotoxicity, whereas Freshwater Ecotoxicity and Natural Land Transformation are dominated by ingredients sourcing.

The key environmental performance indicators (KPIs), i.e. those variables that mainly drive the results for laundry detergents in Europe, based on the results of this study are:

- Amount of product used,
- Choice of and amount of surfactant (although there are trade-offs between impact categories),
- Wash temperature,
- Energy source used to heat the water,
- Emissions to water.

Apart from the LCA analysis, a revision of other scientific evidences, current national schemes and legislation have been performed. These sources of information pointed out the potential presence of hazardous substances in the product that can have environmental and health impacts, and these are addressed according to Articles 6.6 and 6.7 of the Regulation EC/66/2010 on the Ecolabel Regulation¹⁷.

This document shows the process and the evidences to draft the EU Ecolabel criteria that tackle the mentioned main environmental impacts identified through the LCA analysis and the non-LCA impacts identified by revising other sources. The EU Ecolabel criteria are developed to directly or indirectly address the identified LCA and non-LCA impacts (eg the choice and amount of surfactants is an environmental impact directly addressed through one

¹⁶ EC Regulation 648/2004 of The European Parliament and of The Council of 31 March 2004 on detergents. Available from: http://ec.europa.eu/enterprise/sectors/chemicals/documents/specific-chemicals/detergents/index_en.htm

¹⁷ Regulation (EC) No 66/2010 of the European Parliament and of the Council of November 25 2009 on the EU Ecolabel

or several EU Ecolabel criteria while the amount of detergent is indirectly addressed). The "energy source used to heat the water" is the only environmental impact that cannot be addressed through the EU Ecolabel as it is not directly linked to the products; even when consumers can choose the source of energy to heat the water or an electricity provider with a share of renewable energies, this is something out of the scope of what can be promoted through a product environmental label. Moreover, even though waste generation was not among the top 5 KPIs, it can still have an impact of up to 36% for some environmental aspects. Given the large amount of industrial and institutional laundry detergents and the fact that they all come with packaging, a relatively small impact can quickly add up; thus, this aspect is also considered in the EU Ecolabel.

Table 9 shows the link between the LCA and non-LCA impacts identified in the Preliminary Report and the revised or newly developed EU Ecolabel criteria.

Table 9: Link between the hotspots identified (LCA and non-LCA impacts) and the revised EU Ecolabel criteria

Identified hotspots	% of total impact ¹⁸	Revised or new EU Ecolabel criteria	Comments on the related criteria
Wash temperature	3-96%	User information	The criterion encourages users to opt for lower water temperatures.
		Fitness for use	It ensures that the product is fit to wash at lowest temperature recommended by the producer.
		Information appearing on the EU Ecolabel	It informs consumers that the product's performance has been tested, even at low temperatures.
Energy sources to heat up the water	3-96%	--	Out of the scope of this policy tool
Amount of product used per application	3-95 %	User information	It informs users about the amount of product to be used depending on the washing conditions.
		Automatic dosing systems	The criterion ensures that users do not use an incorrect dose when using multi-component systems.
Choice and amount of surfactants	3-95 %	Biodegradability	It ensures that surfactants are biodegradable and will not persist in water.
		Restricted substances	It ensures that hazardous surfactants are not included in the bill of materials.
		Phosphorus content	It ensures that limited and restricted types of phosphorus compounds are not included as ingredients.
		Sustainable Palm oil	It ensures that renewable palm oil surfactants do not cause unnecessary strain on the ecosystem.
Emissions to water	3-95 %	Toxicity to aquatic organisms	It ensures that the sum of the ingredients is not toxic to the aquatic organisms.
		Biodegradability	It ensures that ingredients are not persistent in the water.
		Phosphorus content	It ensures that eutrophication due to phosphorus is limited.
		Restricted substances	It ensures that hazardous substances do not reach water ways.

¹⁸ Information provided in Chapter 5 of the Preliminary Report, although aggregated in a different way, available at: <http://susproc.jrc.ec.europa.eu/detergents/stakeholders.html>

Identified hotspots	% of total impact¹⁸	Revised or new EU Ecolabel criteria	Comments on the related criteria
		Colorants	It ensures that colorants do not accumulate in the water.
		Fragrances	It ensures that only a limited amount of ingredients with sensitizing properties is used.
		Enzymes	It ensures that enzymes cannot be inhaled, limiting health risks for users.
		Information appearing on the EU Ecolabel	It informs consumers that the product contains a limited amount of hazardous substances while they are making purchase decisions.
Waste generation	0-37%	Packaging	It ensures that a limited amount of waste will be generated and that this waste can be recycled.
		User information	It reminds consumers to dispose of the packaging in a responsible manner.
Water consumption	Not rated	User information	The criterion encourages users to opt for full wash loads. It provides information to the users on how to get the most out of the product while lowering the damage to the environment.
Hazardous substances	Not rated	Hazardous substances and mixtures	This criterion limits the hazardous substances and mixtures that can be included in the product, limiting environmental and health risks for consumers.
		Ingoing substances listed in accordance with Article 59(1) of Regulation (EC) No 1907/2006	
		Information appearing on the EU Ecolabel	It informs consumers that the product has a limited amount of hazardous substances, at purchase

2.3 Summary of the feedback requested from stakeholders

INDUSTRIAL AND INSTITUTIONAL LAUNDRY DETERGENTS		
CRITERION / SECTION	QUESTIONS	
Name, definition and scope	1	Do you agree with the minor changes proposed to the definition?
Reference dosage	1	Do you agree with the changes proposed to the reference dosage?
Product and dosage information	1	Is the removal of this criterion appropriate?
Aquatic toxicity	1	Should the CDV limits be changed? Input is requested for further limit revision
	2	Should the tables be changed to be differentiated by product type and not by water hardness?
Biodegradability	1	Do you agree with keeping the current criterion?
	2	What would be the appropriate limits for aNBO and anNBO? Could stakeholders please share with the project team data on the amount of aNBO and anNBO organic substances and mixtures in the product groups covered?
Excluded substances and mixtures	1	Are exclusions required for other substances?
Derogations	1	Is a derogation for peracetic acid necessary?
	2	Are there any viable alternatives for peracetic acid?
	3	Do you have information which could substantiate keeping/removing the current derogations.
Preservatives	1	Do you agree with the changes proposed to requirement on preservatives?
Packaging requirements	1	Packaging is not one of the top 5 KPIs for I&I laundry detergents, should a criterion related to it be kept?
	2	Are the WUR limits appropriate?
	3	Is the design for recycling requirement suitable for this product group?
Automatic dosing systems	1	Is the criterion on multi-component products relevant to the product group?
User information – Information appearing on the EU Ecolabel	1	Is the change to the dosage instruction wording acceptable?
	2	Is a statement on overdosing required as part of the consumer information criterion?
	3	Should information on use of renewable energy be included?
	4	Should recycling labels be included on laundry detergent packaging?
	5	Is it appropriate to have the information appearing on the EU Ecolabel as a separate criterion?

2.4 Criteria structure comparison table

STRUCTURE OF THE CRITERIA	
Current organisation of the EU Ecolabel criteria	Potential changes, modifications or amendments
<p>Criterion 1: Product and dosage information</p> <p>Criterion 2: Toxicity to aquatic organisms: Critical Dilution Volume (CDV)</p> <p>Criterion 3: Biodegradability</p> <p>Criterion 4: Excluded or limited substances and mixtures</p> <p>Criterion 5: Packaging requirements</p> <p>Criterion 6: Washing performance (fitness for use)</p> <p>Criterion 7: Automatic dosing systems</p> <p>Criterion 8: User information — Information appearing on the EU Ecolabel</p>	<p>Criterion 1: Toxicity to aquatic organisms</p> <p>Criterion 2: Biodegradability</p> <p>Criterion 3: Sustainable sourcing of palm oil, etc.</p> <p>Criterion 4: Restricted substances</p> <p>Criterion 5: Packaging</p> <p>Criterion 6: Washing performance</p> <p>Criterion 7: Automatic dosing systems</p> <p>Criterion 8: Consumer information</p> <p>Criterion 9: Information appearing on the EU Ecolabel</p>
	<p>The proposed changes to the structure reflect the harmonisation across all detergents and cleaning products criteria documents. An additional criterion is proposed to cover sustainable sourcing of certain ingredients.</p>

2.5 Name and definition comparison table

NAME OF THE EU ECOLABEL	
Current name of the EU Ecolabel	Potential changes, modifications or amendments
Industrial and institutional laundry detergents	No change proposed
DEFINITION OF THE PRODUCT GROUP	
<p>The product group 'Industrial and Institutional Laundry Detergents' shall comprise: laundry detergent products performed by professional users in the industrial and institutional sector.</p> <p>Included in this product group are multi-component-systems constituting of more than one component used to build up a complete detergent or a laundering program for automatic dosing system.</p> <p>This product group shall not comprise products for obtaining textile attributes such as water-repellent, waterproof or fire-proof, etc. Furthermore, the product group shall not comprise products that are dosed by carriers such as sheets, cloths or other materials, as well as washing auxiliaries used without subsequent washing, such as stain removers for carpets and furniture upholstery.</p> <p>Consumer laundry products are excluded from the scope of this product group.</p>	<p>The product group 'Industrial and institutional laundry detergents' shall comprise: laundry detergent products used by professionals in industrial and institutional facilities.</p> <p>Included in this product group are multi-component-systems constituting of more than one component used to build up a complete detergent or a laundering program for automatic dosing system. Multi-component systems may incorporate a number of products including fabric softeners, stain removers and rinsing agents.</p> <p>This product group shall not comprise products which induce textile attributes such as water-repellency, waterproof-ness or fire retardancy, etc. Furthermore, the product group shall not comprise products that are dosed by carriers such as sheets, cloths or other materials, as well as washing auxiliaries used without subsequent washing, such as stain removers for carpets and furniture upholstery.</p> <p>Consumer laundry products are excluded from the scope of this product group.</p>
	<p>The proposed change aims to bring further harmonisation in the wording of the different EU Ecolabels related to detergents and the Detergents Regulation. It also proposes a clarification of what constitutes a multi-component system through examples. The wording is also proposed to be changed for attributes as previously they were adjectives and not nouns.</p>

2.6 Comparison of existing and proposed criteria

CRITERIA														
Existing EU Ecolabel criteria	Potential changes, modifications or amendments													
Criterion 1: Product and dosage information														
<p>The recommended total dosage for 1 kg of laundry according to the degree of soiling and water hardness shall be given in g/kg laundry or ml/kg laundry. All products in a multi-component system have to be included with the worst case dosage when assessments of the criteria are made.</p> <p>Examples of degree of soiling:</p> <table border="1"> <thead> <tr> <th>Light</th> <th>Medium</th> <th>Heavy</th> </tr> </thead> <tbody> <tr> <td>Hotel: bed-linen, bedclothes and towels, etc. (towels may be considered heavily soiled)</td> <td>Work clothes: institutions/retail/service, etc.</td> <td>Work clothes: industry/kitchen/butchering, etc.</td> </tr> <tr> <td>Cloth hand towel rolls</td> <td>Restaurants: table-cloths, napkins, etc.</td> <td>Kitchen textiles: clothes, dish towels, etc.</td> </tr> <tr> <td></td> <td>Mops and mats</td> <td>Institutions as hospitals: bed-linen, bedclothes, contour sheets, patient clothing, doctor's coat or coadress, etc.</td> </tr> </tbody> </table> <p>The product name, or in case of a multi-component system, a list of all products part of that system, together with the recommended water hardness (soft, medium or hard) and the intended degree of soiling shall be provided.</p> <p>The applicant must document compliance with criteria 2, 3 and 6 for all product names.</p> <p>Assessment and verification: the applicant shall provide the product name, or in case of a multi-component system, a list of all products part of that system, together with exact formulation of the product(s) and the label or artwork including dosage instructions according to the three degrees of soiling and water hardness. The density (g/ml) shall be stated for all products (either on the</p>			Light	Medium	Heavy	Hotel: bed-linen, bedclothes and towels, etc. (towels may be considered heavily soiled)	Work clothes: institutions/retail/service, etc.	Work clothes: industry/kitchen/butchering, etc.	Cloth hand towel rolls	Restaurants: table-cloths, napkins, etc.	Kitchen textiles: clothes, dish towels, etc.		Mops and mats	Institutions as hospitals: bed-linen, bedclothes, contour sheets, patient clothing, doctor's coat or coadress, etc.
Light	Medium	Heavy												
Hotel: bed-linen, bedclothes and towels, etc. (towels may be considered heavily soiled)	Work clothes: institutions/retail/service, etc.	Work clothes: industry/kitchen/butchering, etc.												
Cloth hand towel rolls	Restaurants: table-cloths, napkins, etc.	Kitchen textiles: clothes, dish towels, etc.												
	Mops and mats	Institutions as hospitals: bed-linen, bedclothes, contour sheets, patient clothing, doctor's coat or coadress, etc.												
		<p>It is proposed to remove the criterion.</p>												

packaging or in a Safety Data Sheet).

As this criterion presents requirements that are already included in the section on "reference dosage" and in the criterion on "user instructions", it is proposed to remove it.

Criterion 2: Toxicity to aquatic organisms (CDV)

The Critical Dilution Volume (CDV chronic) of the product shall not exceed the following limits:

Soft water (0-6 °dH)	CDV_{chronic} (L/kg laundry)		
Product type/Degree of soiling	Light	Medium	Heavy
Powder	30,000	40,000	50,000
Liquid	50,000	60,000	70,000
Multi-component-system	50,000	70,000	90,000

Medium water (7-13 °dH)	CDV_{chronic} (L/kg laundry)		
Product type/Degree of soiling	Light	Medium	Heavy
Powder	40,000	60,000	80,000
Liquid	60,000	75,000	90,000
Multi-component-system	60,000	80,000	100,000

Hard water (>14 °dH)	CDV_{chronic} (L/kg laundry)		
Product type/Degree of soiling	Light	Medium	Heavy
Powder	50,000	75,000	90,000
Liquid	75,000	90,000	120,000
Multi-component-system	75,000	100,000	120,000

The Critical Dilution Volume (CDV chronic) is calculated for all ingoing substances (i) in the product using the following equation:

$$CDV_{chronic} = \sum CDV_{(i)} = \sum weight_{(i)} \times DF_{(i)} / TF_{chronic(i)} \times 1000$$

Where:

weight = the weight of the ingoing substance per recommended dose

DF = the degradation factor

The critical dilution volume (CDV) of the product must not exceed the following limits [for the reference dosage](#):

Soft water (<1,5 mmol CaCO3/L)			
Degree of soiling	Light	Medium	Heavy
Product type			
Powder	30 000	40 000	50 000
Liquid	50 000	60 000	70 000
Multi-component-system	50 000	70 000	90 000

Medium water (1,5 – 2,5 mmolCaCO3/L)			
Degree of soiling	Light	Medium	Heavy
Product type			
Powder	40 000	60 000	80 000
Liquid	60 000	75 000	90 000
Multi-component-system	60 000	80 000	100 000

Hard water (> 2,5 mmol CaCO3/L)			
Degree of soiling	Light	Medium	Heavy
Product type			
Powder	50 000	75 000	90 000
Liquid	75 000	90 000	120 000
Multi-component-system	75 000	100 000	120 000

Assessment and verification: Calculation of the CDV of the product. A spreadsheet for calculation of the CDV value is available on the EU Ecolabel website.

The Critical Dilution Volume (CDV) is calculated for all ingoing substances and

<p>TF = the chronic toxicity factor of the substance as stated in the DID list.</p> <p>Biocides, colouring agents and fragrances present in the product must also be included in the CDV calculation even if the concentration is lower than 0,010 % (100 ppm).</p> <p>Because of the degradation of the substances in the wash process, separate rules apply to the following substances:</p> <ul style="list-style-type: none"> - Hydrogen Peroxide (H₂O₂) — not to be included in calculation of CDV - Peracetic acid — to be included in the calculation as acetic acid. <p>Assessment and verification: the applicant shall provide calculation of the CDV chronic of the product. A spreadsheet for calculation of the CDV value is available on the EU Ecolabel website.</p> <p>The values of the DF and TF parameters shall be as given in the Detergent Ingredient Database list (DID list). If the</p>	<p>mixtures (i) in the product using the following equation:</p> $CDV = \sum CDV(i) = 1000 \cdot \sum dosage(i) \cdot \frac{DF(i)}{TF(i)}$ <p>Where:</p> <p><i>dosage(i)</i>: weight (g) of the substance or mixture i in the reference dose,</p> <p><i>DF(i)</i>: degradation factor for the substance or mixture i</p> <p><i>TF(i)</i>: toxicity factor for the substance or mixture i</p> <p>The values of <i>DF(i)</i> and <i>TF(i)</i> shall be as given in the DID list Part A (Appendix I¹⁹). If a substance or mixture is not included in the DID list Part A, the applicant shall estimate the values follow the approach described in the DID list Part B (Appendix I).</p> <p>Because of the degradation of the substances in the wash process, separate rules apply to the following substances:</p> <ul style="list-style-type: none"> • hydrogen peroxide (H₂O₂) – not to be included in calculation of CDV • peracetic acid – to be included in the calculation as acetic acid.
	<p>No change of thresholds or requirements is proposed, except of referencing water hardness in mmol CaCO₃/l.</p>

¹⁹ The "Appendix" referred to in the criteria text is the Appendix found at the end of EU Ecolabel criteria and has not been formulated as of the writing of this report. It does not refer to the Appendixes found at the end of this Technical Report.

Criterion 3: Biodegradability

(a) Biodegradability of surfactants

All surfactants must be biodegradable under aerobic conditions.

All non-ionic and cationic surfactants must also be biodegradable under anaerobic conditions.

(b) Biodegradability of organic substances

The content of all organic substances in the product that are aerobically non-biodegradable (not readily biodegradable) (aNBO) and anaerobically non-biodegradable (anNBO) shall not exceed the following limits:

aNBO

Soft water (0-6 °dH)	aNBO (g/kg laundry)		
Product type/Degree of soiling	Light	Medium	Heavy
Powder	0.70	1.10	1.40
Liquid	0.50	0.60	0.70
Multi-component system	1.25	1.75	2.50

Medium water (7-13 °dH)	aNBO (g/kg laundry)		
Product type/Degree of soiling	Light	Medium	Heavy
Powder	1.10	1.40	1.75
Liquid	0.60	0.70	0.90
Multi-component system	1.75	2.50	3.75

Hard water (>14 °dH)	aNBO (g/kg laundry)		
Product type/Degree of soiling	Light	Medium	Heavy
Powder	1.40	1.75	2.20
Liquid	0.70	0.90	1.20
Multi-component system	2.50	3.75	4.80

anNBO

Soft water (0-6 °dH)	anNBO (g/kg laundry)		
Product type/Degree of soiling	Light	Medium	Heavy
Powder	0.70	1.10	1.40

a) Biodegradability of surfactants

All surfactants shall be biodegradable under aerobic conditions.

Non-ionic and cationic surfactants shall be biodegradable under anaerobic conditions.

b) Biodegradability of organic substances and mixtures

The content of organic substances and mixtures in the product that are aerobically non-biodegradable (not readily biodegradable aNBO) or anaerobically non-biodegradable (anNBO) shall not exceed the following limits for the reference dosage:

aNBO (g/kg laundry)

Soft water (<1,5 mmol CaCO ₃ /L)			
Degree of soiling	Light	Medium	Heavy
Product type	Light	Medium	Heavy
Powder	0,70	1,10	1,40
Liquid	0,50	0,60	0,70
Multi-component-system	1,25	1,75	2,50

Medium water (1,5 – 2,5 mmolCaCO ₃ /L)			
Degree of soiling	Light	Medium	Heavy
Product type	Light	Medium	Heavy
Powder	1,10	1,40	1,75
Liquid	0,60	0,70	0,90
Multi-component-system	1,75	2,50	3,75

Hard water (> 2,5 mmol CaCO ₃ /L)			
Degree of soiling	Light	Medium	Heavy
Product type	Light	Medium	Heavy
Powder	1,40	1,75	2,20
Liquid	0,70	0,90	1,20
Multi-component-system	2,50	3,75	4,80

Liquid	0.50	0.60	0.70
Multi-component system	1.25	1.75	2.50

Medium water (7-13 °dH)	anNBO (g/kg laundry)		
Product type/Degree of soiling	Light	Medium	Heavy
Powder	1.10	1.40	1.75
Liquid	0.60	0.70	0.90
Multi-component system	1.75	2.50	3.75

Hard water (>14 °dH)	anNBO (g/kg laundry)		
Product type/Degree of soiling	Light	Medium	Heavy
Powder	1.40	1.75	2.20
Liquid	0.70	0.90	1.20
Multi-component system	2.50	3.75	4.80

Assessment and verification: the applicant shall provide documentation for the degradability of surfactants as well as the calculation of aNBO and anNBO for the product. A spreadsheet for use in calculating aNBO and anNBO values is available on the EU Ecolabel website.

For both surfactants and aNBO and anNBO values reference should be done to the DID List. For ingoing substances which are not included in the DID list, the relevant information from literature or other sources, or appropriate test results, showing that they are aerobically and anaerobically biodegradable shall be provided as described in Appendix I.

Note that TAED should be considered as anaerobically biodegradable.

In the absence of documentation in accordance with the above requirements, a substance other than a surfactant may be exempted from the requirement for anaerobic degradability if one of the following three alternatives is fulfilled:

1. Readily degradable and has low adsorption ($A < 25\%$) or
2. Readily degradable and has high desorption ($D > 75\%$) or
3. Readily degradable and non-bioaccumulating.

Testing for adsorption/desorption may be conducted in accordance with OECD guidelines 106.

anNBO (g/kg laundry)

Soft water (<1,5 mmol CaCO ₃ /L)			
Degree of soiling	Light	Medium	Heavy
Product type	Light	Medium	Heavy
Powder	0,70	1,10	1,40
Liquid	0,50	0,60	0,70
Multi-component-system	1,25	1,75	2,50

Medium water (1,5 – 2,5 mmolCaCO ₃ /L)			
Degree of soiling	Light	Medium	Heavy
Product type	Light	Medium	Heavy
Powder	1,10	1,40	1,75
Liquid	0,60	0,70	0,90
Multi-component-system	1,75	2,50	3,75

Hard water (> 2,5 mmol CaCO ₃ /L)			
Degree of soiling	Light	Medium	Heavy
Product type	Light	Medium	Heavy
Powder	1,40	1,75	2,20
Liquid	0,70	0,90	1,20
Multi-component-system	2,50	3,75	4,80

Assessment and verification: The applicant shall provide documentation for the degradability of surfactants, as well as the calculations of aNBO and anNBO for the product. A spreadsheet for use in calculating aNBO and anNBO values is available on the EU Ecolabel website.

For both surfactants and aNBO and anNBO values, reference shall be made to the DID List. For ingredients which are not included in the DID List, the relevant information from literature or other sources, or appropriate test results, showing that they are aerobically and anaerobically biodegradable shall be provided as described in Appendix I.

In the absence of documentation in accordance with the above requirements, an ingoing substances and mixtures other than a surfactant may be exempted from

	<p>the requirement for anaerobic degradability if one of the following three alternatives is fulfilled:</p> <ol style="list-style-type: none"> 1. Readily degradable and has low adsorption ($A < 25\%$); 2. Readily degradable and has high desorption ($D > 75\%$); 3. Readily degradable and non-bioaccumulating. <p>Testing for adsorption/desorption may be conducted in accordance with OECD guidelines 106.</p>
	<p>As six EU Ecolabels related to detergents are being revised at the same time and as these products often have similar formulations, it is judicious to consider the harmonisation of their criteria. The current six EU Ecolabel criteria approach the subject using three different manners and stakeholder consultation has yielded a multitude of opinions. It has thus been decided that a discussion during the 1st AHWG meeting will be held. As a starting point for the harmonised approach, the criterion included in the most recently voted criteria for industrial and institutional products (laundry and dishwasher detergents) is proposed. The criterion will be revised following discussions with stakeholders. Collection of data on aNBO and anNBO is conducted.</p>
<p>Criterion 4: Excluded or limited substances and mixtures</p>	
<p>(a) Specified excluded substances</p> <p>The following substances shall not be included in the product, either as part of the formulation nor as part of any mixture included in the formulation:</p> <ul style="list-style-type: none"> - Phosphates (phosphonates are not excluded but limited by criterion 3) - APEO (Alkyl phenol ethoxylates) and ADP (Alkylphenols and derivatives thereof) - EDTA (ethylene-diamine-tetra-acetic-acid) and its salts <p>Assessment and verification: the applicant shall provide a declaration supported by declarations from manufacturers of substances, as appropriate, confirming that the listed substances have not been included in the product.</p>	<p>(a) Specified excluded ingoing substances and mixtures</p> <p>The product shall not be formulated or manufactured using any of the following compounds:</p> <ol style="list-style-type: none"> (i) Phosphates (ii) Phosphonates that are not readily biodegradable (iii) APEO (alkylphenol ethoxylates) and APD (alkylphenol derivatives) (iv) EDTA (ethylenediaminetetraacetate) (v) Nitro-musks and polycyclic musks (vi) Hydroxyisohexyl 3-cyclohexene carboxaldehyde (HICC) (vii) Atranol and Chloroatranol (viii) Fragrance substances subject to the declaration requirement provided for in Regulation (EC) No 648/2004 of the European Parliament and of the Council on detergents (Annex VII) and which are not already excluded by criterion X(b) shall not be present in quantities $\geq 0,010\%$ (≥ 100 ppm) per substance in the final product. <p>Assessment and verification: the applicant shall provide:</p>

	<p>a) a signed declaration of compliance supported by declarations from manufacturers of mixtures, as appropriate, confirming that the listed substances and/or mixtures have not been included in the product.</p> <p>b) written statements on compliance, including:</p> <ul style="list-style-type: none"> - information on the complexing agents in the product (detail information of the type of phosphonates added as ingredients); - information for the biodegradability of the phosphonates. A spreadsheet for use in calculating aNBO values is available on the EU Ecolabel website. <p>For aNBO values reference should be done to the DID List. For phosphonates which are not included in the most updated DID list, the relevant information from literature or other sources, or appropriate test results, showing that they are aerobically biodegradable shall be provided as described in Appendix (to be added).</p> <p>The applicant shall also provide a declaration from the fragrance manufacturer specifying the content of each of the substances in the fragrances which are listed in Annex III of the Regulation (EC) No 1223/2009.</p>																		
	<p>The proposed changes aim at excluding ingredients with undesired environmental and health-related properties from EU Ecolabel products. Further discussion on the harmonisation of this criterion across all product groups is needed.</p>																		
<p>(b) Hazardous substances and mixtures</p> <p>According to the Article 6(6) of Regulation (EC) No 66/2010 on the EU Ecolabel, the product or any component of it shall not contain substances meeting criteria for classification with the hazard statements or risk phrases specified below in accordance with Regulation (EC) No 1272/2008 of the European Parliament and of the Council (1) or Council Directive 67/548/EEC (2) nor shall it contain substances referred to in Article 57 of Regulation (EC) No 1907/2006. The risk phrases below generally refer to substances. However, if information on substances cannot be obtained, the classification rules for mixtures apply.</p> <p>List of hazard statements:</p> <table border="1"> <thead> <tr> <th>GHS Hazard Statement</th> <th>EU Risk Phrase</th> </tr> </thead> <tbody> <tr> <td>H300 Fatal if swallowed</td> <td>R28</td> </tr> <tr> <td>H301 Toxic if swallowed</td> <td>R25</td> </tr> <tr> <td>H304 May be fatal if swallowed and enters airways</td> <td>R65</td> </tr> <tr> <td>H310 Fatal in contact with skin</td> <td>R27</td> </tr> <tr> <td>H311 Toxic in contact with skin</td> <td>R24</td> </tr> <tr> <td>H330 Fatal if inhaled</td> <td>R23/26</td> </tr> </tbody> </table>	GHS Hazard Statement	EU Risk Phrase	H300 Fatal if swallowed	R28	H301 Toxic if swallowed	R25	H304 May be fatal if swallowed and enters airways	R65	H310 Fatal in contact with skin	R27	H311 Toxic in contact with skin	R24	H330 Fatal if inhaled	R23/26	<p>(b) Hazardous substances and mixtures</p> <p>According to Article 6(6) of Regulation (EC) No 66/2010, the EU Ecolabel may not be awarded to any product that contains substances meeting criteria for classification with the hazard statements specified in Table 10 in accordance with Regulation (EC) No 1272/2008 of the European Parliament or substances referred to in Article 57 of Regulation (EC) No 1907/2006.</p> <p>The hazard statements in Table 10 generally refer to substances. However, if information on substances cannot be obtained, the classification rules for mixtures apply.</p> <p>Substances or mixtures which change their properties through processing and thus become no longer bioavailable, or undergo chemical modification in a way that removes the previously identified hazard are exempted from criterion X(b).</p> <p>Table 10: Hazard statements</p> <table border="1"> <thead> <tr> <th>GHS Hazard Statement</th> </tr> </thead> <tbody> <tr> <td>H300 Fatal if swallowed</td> </tr> <tr> <td>H301 Toxic if swallowed</td> </tr> <tr> <td>H304 May be fatal if swallowed and enters airways</td> </tr> </tbody> </table>	GHS Hazard Statement	H300 Fatal if swallowed	H301 Toxic if swallowed	H304 May be fatal if swallowed and enters airways
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GHS Hazard Statement																			
H300 Fatal if swallowed																			
H301 Toxic if swallowed																			
H304 May be fatal if swallowed and enters airways																			

H331 Toxic if inhaled	R23
H340 May cause genetic defects	R46
H341 Suspected of causing genetic defects	R68
H350 May cause cancer	R45
H350i May cause cancer by inhalation	R49
H351 Suspected of causing cancer	R40
H360F May damage fertility	R60
H360D May damage the unborn child	R61
H360FD May damage fertility. May damage the unborn child	R60-61
H360Fd May damage fertility. Suspected of damaging the unborn child	R60-63
H360Df May damage the unborn child. Suspected of damaging fertility	R61-62
H361f Suspected of damaging fertility	R62
H361d Suspected of damaging the unborn child	R63
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.	R62-63
H362 May cause harm to breast fed children	R64
H370 Causes damage to organs	R39/23; R39/24; R39/25; R39/26; R39/27; R39/28
H371 May cause damage to organs	R68/20; R68/21; R68/22
H372 Causes damage to organs through prolonged or repeated exposure	R48/25; R48/24; R48/23
H373 May cause damage to organs through prolonged or repeated exposure	R48/20; R48/21; R48/22
H400 Very toxic to aquatic life	R50
H410 Very toxic to aquatic life with long-lasting effects	R50-53
H411 Toxic to aquatic life with long-lasting effects	R51-53
H412 Harmful to aquatic life with long-lasting effects	R52-53
H413 May cause long-lasting harmful effects to aquatic life	R53
EUH059 Hazardous to the ozone layer	R59

H310 Fatal in contact with skin
H311 Toxic in contact with skin
H330 Fatal if inhaled
H331 Toxic if inhaled
H340 May cause genetic defects
H341 Suspected of causing genetic defects
H350 May cause cancer
H350i May cause cancer by inhalation
H351 Suspected of causing cancer
H360F May damage fertility
H360D May damage the unborn child
H360FD May damage fertility. May damage the unborn child
H360Fd May damage fertility. Suspected of damaging the unborn child
H360Df May damage the unborn child. Suspected of damaging fertility
H361f Suspected of damaging fertility
H361d Suspected of damaging the unborn child
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
H362 May cause harm to breast fed children
H370 Causes damage to organs
H371 May cause damage to organs
H372 Causes damage to organs through prolonged or repeated exposure
H373 May cause damage to organs through prolonged or repeated exposure
H400 Very toxic to aquatic life
H410 Very toxic to aquatic life with long-lasting effects
H411 Toxic to aquatic life with long-lasting effects
H412 Harmful to aquatic life with long-lasting effects
H413 May cause long-lasting harmful effects to aquatic life
EUH059 Hazardous to the ozone layer
EUH029 Contact with water liberates toxic gas
EUH031 Contact with acids liberates toxic gas
EUH032 Contact with acids liberates very toxic gas
EUH070 Toxic by eye contact
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
H317: May cause allergic skin reaction

This criterion applies to all ingredients present in concentrations $\geq 0,01$ %, including preservatives, colouring agents and fragrances.

EUH029 Contact with water liberates toxic gas	R29
EUH031 Contact with acids liberates toxic gas	R31
EUH032 Contact with acids liberates very toxic gas	R32
EUH070 Toxic by eye contact	R39-41
Sensitising substances	
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled	R42
H317: May cause allergic skin reaction	R43

Note that this criterion also applies to known degradation products such as formaldehyde from formaldehyde releasers.

Substances or mixtures which change their properties upon processing (e.g. become no longer bioavailable, undergo chemical modification) so that the identified hazard no longer applies are exempted from the above requirement.

The final product must not be labelled according to the hazard statements above.

Derogations

The following substances are specifically exempted from this requirement:

Surfactants in concentrations <25 % in the final product	H400 Very toxic to aquatic life	R50
Surfactants in concentrations <25 % in the final product (*)	H412 Harmful to aquatic life with long-lasting effects	R52-53
Biocides used for preservation purposes (**)	H410 Very toxic to aquatic life with long-lasting effects	R50-53
	H411 Toxic to aquatic life with long-lasting effects	R51-53
	H412 Harmful to aquatic life with long-lasting effects	R52-53
Fragrances	H412 Harmful to aquatic life with long-lasting effects	R52-53

For consumer industrial and institutional laundry detergents, the substances in Table 11 are exempted from the obligation in Article 6(6) of Regulation (EC) No 66/2010 following application of Article 6(7) of the same Regulation.

Table 11: Derogated substances - To be discussed in the 1st AHWG meeting

Derogated substance	H phrases
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Assessment and verification: the applicant shall demonstrate compliance with criterion X(b) for any ingoing substance or mixture present at concentrations greater than 0,010% in the product.

A declaration of compliance shall be provided by the applicant supported, where appropriate, by the declarations from producer(s) of the raw materials that none of these ingoing substances and/or mixtures meet the criteria for classification with one or more of hazard statements listed in Table 10 in the form(s) and physical state(s) they are present in the product.

The following technical information related to the form(s) and physical state(s) of the ingoing substances and/or mixtures as present in the product shall be provided to support the declaration of non-classification:

- (i) For substances that have not been registered under Regulation (EC) No 1907/2006 and/or which do not yet have a harmonised CLP classification: Information meeting the requirements listed in Annex VII to that Regulation;
- (ii) For substances that have been registered under Regulation (EC) No 1907/2006 and which do not meet the requirements for CLP classification: Information based on the REACH registration dossier confirming the non-classified status of the substance;
- (iii) For substances that have a harmonised classification or are self-classified: safety data sheets where available. If these are not available or the substance is self-classified then information shall be provided relevant to the substances hazard classification according to Annex II to Regulation (EC) No 1907/2006;
- (iv) In the case of mixtures: safety data sheets where available. If these are not available then calculation of the mixture classification shall be provided according to the rules under Regulation (EC) No 1272/2008 together with information relevant to the mixtures hazard classification according to Annex II to Regulation (EC) No 1907/2006.

For substances listed in Annexes IV and V to Regulation (EC) No 1907/2006, which

Enzymes(***)	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled	R42	<p>are exempted from registration obligations under point (a) and (b) of Article 2(7) of that Regulation, a declaration to this effect by the applicant shall suffice to comply with criterion X(b).</p> <p>A declaration on the presence of ingoing substances that fulfil the derogation conditions shall be provided by the applicant, supported, where appropriate, by declarations from the producer(s) of the raw materials. Where required for the derogation, the applicant shall confirm the concentrations of these ingoing substances in the final product.</p>
	H317: May cause allergic skin reaction	R43	
Bleach catalysts (***)	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled	R42	
	H317: May cause allergic skin reaction	R43	
NTA as an impurity in MGDA and GLDA (****)	H351 suspected of causing cancer	R40	
Optical brighteners (only for heavy duty laundry detergent)	H413: May cause long lasting effects to aquatic life	R33	
<p>Assessment and verification: the applicant shall demonstrate compliance with this criterion by providing a declaration on the non-classification of each ingoing substance into any of the hazard classes associated to the hazard statements referred to in the above list in accordance with Regulation (EC) No 1272/2008, as far as this can be determined, as a minimum, from the information meeting the requirements listed in Annex VII to Regulation (EC) No 1907/2006. This declaration shall be supported by summarised information on the relevant characteristics associated to the hazard statements referred to in the above list, to the level of detail specified in sections 10, 11 and 12 of Annex II to Regulation (EC) No 1907/2006 (Requirements for the Compilation of Safety Data Sheets).</p> <p>Information on intrinsic properties of substances may be generated by means other than tests, for instance through the use of alternative methods such as in vitro methods, by quantitative structure activity models or by the use of grouping or read-across in accordance with Annex XI to Regulation (EC) No 1907/2006. The sharing of relevant data is strongly encouraged.</p> <p>The information provided shall relate to the forms or physical states of the substance or mixtures as used in the final product.</p> <p>For substances listed in Annexes IV and V to REACH, exempted from registration obligations under Article 2(7)(a) and (b) of Regulation (EC) No 1907/2006 REACH, a declaration to this effect will suffice to comply with the requirements set out above.</p>			

	<p>off cosmetics (ROCs). The assessment and verification part explains in more detail what evidence should be provided depending on the situation, e.g. availability of harmonised classification or SDS.</p> <p>Derogations will be discussed at the 1st AHWG meeting. Industry/stakeholders are asked to provide information substantiating requests to keep the current derogations by filling in the derogation request form included at the end of the Technical Annexe. The same applies to potential new requests for derogations.</p>
<p>(c) Substances listed in accordance with Article 59(1) of Regulation (EC) No 1907/2006</p> <p>No derogation from the exclusion in Article 6(6) of the Regulation (EC) No 66/2010 shall be given concerning substances identified as substances of very high concern and included in the list foreseen in Article 59 of Regulation (EC) No 1907/2006, present in mixtures in concentrations > 0,010 %.</p> <p>Assessment and verification: the list of substances identified as substances of very high concern and included in the candidate list in accordance with Article 59 of Regulation (EC) No 1907/2006 can be found at: http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp</p> <p>Reference to the list shall be made on the date of application. The applicant shall provide the exact formulation of the product to the competent body. The applicant shall also provide a declaration of compliance with this criterion, together with related documentation, such as declarations of compliance signed by the material suppliers and copies of relevant Safety Data Sheets for substances or mixtures.</p>	<p>(c) "Ingoing substances listed in accordance with Article 59(1) of Regulation (EC) No 1907/2006"</p> <p>No derogation from the exclusion in Article 6(6) of Regulation (EC) No 66/2010 shall be given concerning ingoing substances identified as substances of very high concern and included in the list provided for in Article 59(1) of Regulation (EC) No 1907/2006, present in the product in concentrations higher than 0.010 % (weight by weight).</p> <p>Assessment and verification: reference to the list of substances identified as substances of very high concern shall be made on the date of application. The applicant shall provide the full formulation of the product to the competent body. The applicant shall also provide a declaration of compliance with criterion X(c), together with related documentation, such as declarations of compliance signed by the material suppliers and copies of relevant safety data sheets for substances or mixtures.</p>
	<p>No content-wise changes are proposed. The text is proposed to be aligned with that of the corresponding criterion in the ROC criteria.</p>
<p>(d) Specified limited ingoing substances — fragrances</p> <p>The product shall not contain perfumes containing nitro-musk or polycyclic musk</p> <p>Any ingoing substance added to the product as a fragrance shall be manufactured and handled following the code of practice of the International Fragrance Association (IFRA). The code can be found on IFRA website: http://www.ifraorg.org. The recommendations of the IFRA Standards concerning prohibition, restricted use and specified purity criteria for materials shall be followed by the manufacturer.</p> <p>Fragrance substances subject to the declaration requirement provided for in Regulation (EC) No 648/2004 of the European Parliament and of the Council (1) on detergents (Annex VII) and which are not already excluded by criterion 4(b)</p>	<p>(d) Fragrances</p> <p>Any ingoing substance or mixture added to the product as a fragrance shall be manufactured and handled following the code of practice of the International Fragrance Association (IFRA). The code can be found on the IFRA website: http://www.ifraorg.org. The recommendations of the IFRA Standards concerning prohibition, restricted use and specified purity criteria for materials shall be followed by the manufacturer.</p> <p>Assessment and verification: the applicant shall provide a signed declaration of compliance, supported by a declaration of the fragrance manufacturer, as</p>

<p>shall not be present in quantities $\geq 0,010\%$ (≥ 100 ppm) per substance in the final product.</p> <p>Assessment and verification: the applicant shall provide a signed declaration of compliance indicating the amount of fragrances in the product. The applicant shall also provide a declaration from the fragrance manufacturer specifying the content of each of the substances in the fragrances which are listed in Annex III, Part I to Council Directive 76/768/EEC.</p>	<p><i>appropriate</i></p>
	<p>No content-wise changes are proposed. The text is proposed to be aligned with that of other product groups and the exclusion of nitro-musks and polycyclic musks is now included in sub-criterion X(a) Specified excluded ingoing substances and mixtures.. The reference to the Cosmetics Directive 76/768/EEC should be changed to the Cosmetics Regulation (EC) No 1223/2009.</p>
<p>(e) Biocides</p> <p>(i) The product may only include biocides in order to preserve the product, and in the appropriate dosage for this purpose alone. This does not refer to surfactants, which may also have biocidal properties.</p> <p>Assessment and verification: the applicant shall provide copies of the material safety data sheets of any biocides added, together with information on their exact concentration in the product. The manufacturer or supplier of the biocides shall provide information on the dosage necessary to preserve the product.</p> <p>(ii) It is prohibited to claim or suggest on the packaging or by any other communication that the product has an antimicrobial or disinfecting effect.</p> <p>Assessment and verification: the applicant shall provide the texts and layouts used on each type of packaging and/or an example of each different type of packaging to the competent body.</p> <p>(iii) The product may contain biocides provided that they are not bioaccumulating. A biocide is not considered bioaccumulating if $BCF < 100$ or $\log K_{ow} < 3,0$. If both BCF and $\log K_{ow}$ values are available, the highest measured BCF value shall be used.</p> <p>Assessment and verification: the applicant shall provide copies of the material safety data sheets of any biocide added, together with information on their BCF and/or $\log K_{ow}$ values.</p>	<p>(e) Preservatives</p> <p>(iv) The product may contain preservatives provided that they are not bioaccumulating. A preservative is not considered bioaccumulating if $BCF < 100$ or $\log P_{ow} < 3,0$. If both BCF and $\log K_{ow}$ values are available, the highest measured BCF value shall be used.</p> <p>(v) Preservatives in the product shall not release or degrade to substances that are classified in accordance with the requirements of criterion x(b) Hazardous substances and mixtures.</p> <p>(vi) It is prohibited to claim or suggest on the packaging or by any other communication that the product has an antimicrobial action.</p> <p>Assessment and verification: the applicant shall provide a signed declaration of compliance, together with copies of the safety data sheets of any preservative added, and information on its BCF and/or $\log K_{ow}$ values. The applicant shall provide also artwork of the packaging.</p>
	<p>The proposed changes aim at harmonising the requirements on preservatives across all six product groups and they add two additional restrictions. Firstly, it is requested that preservatives used are not bioaccumulating and secondly, that they</p>

	do not release or degrade to hazardous substances excluded by criterion X(b). The statement that "product may only include biocides in order to preserve the product, and in the appropriate dosage for this purpose alone. This does not refer to surfactants, which may also have biocidal properties" is proposed to be removed as it is not easily verifiable by competent bodies.								
	<p>(f) Colorants</p> <p>Colorants in the product must not be bioaccumulating. A colorant is considered not bioaccumulating if BCF < 100 or logPow < 3.0. If both BCF and log Kow values are available, the highest measured BCF value shall be used. In the case of colouring agents approved for use in food, it is not necessary to submit documentation of bioaccumulation potential.</p> <p>Assessment and verification: the applicant shall provide copies of the safety data sheets of any colorant added together with information on its BCF and/or log Kow value, or documentation to ensure that the colouring agent is approved for use in food.</p>								
	The addition of this criterion is proposed in order to harmonise requirements with the other criteria for detergents and cleaning product groups.								
<p>(f) Enzymes</p> <p>Enzymes must be in liquid form or dust-free granulate. Enzymes must be free from micro-organism remnants from manufacture.</p> <p>Assessment and verification: the applicant shall provide copies of the material safety data sheets of any enzyme added, together with documentation to ensure that the enzyme is free from micro-organism remnants.</p>	<p>(g) Enzymes</p> <p>Enzymes must be in liquid form or dust-free granulate. Enzymes must be free from micro-organism remnants from manufacture.</p> <p>Assessment and verification: the applicant shall provide copies of the material safety data sheets of any enzyme added, together with documentation to ensure that the enzyme is free from micro-organism remnants.</p>								
	<p>(g) Phosphorus content</p> <p>The total content of phosphorus compounds in the product is limited to</p> <table border="1"> <thead> <tr> <th>Soiling</th> <th>Light</th> <th>Medium</th> <th>Heavy</th> </tr> </thead> <tbody> <tr> <td>Pg/kg laundry (dry weight)</td> <td>0.5</td> <td>1</td> <td>1.5</td> </tr> </tbody> </table> <p>Assessment and verification: the applicant should provide written statements on compliance, including:</p> <ul style="list-style-type: none"> - information on the complexing agents in the product (detail information of the type of phosphorus-content substances added as ingredients); - information on the recommended dose for different levels of soiling or water hardness (when applicable); 	Soiling	Light	Medium	Heavy	Pg/kg laundry (dry weight)	0.5	1	1.5
Soiling	Light	Medium	Heavy						
Pg/kg laundry (dry weight)	0.5	1	1.5						

- calculation of the product's total P-content

While all phosphates and non-readily biodegradable phosphonates are proposed to be excluded through criterion X(a), the total phosphorus content is proposed to be limited in order to ensure that this type of substance will contribute to eutrophication.

Criterion 5 – Packaging requirements

(a) Weight/utility ratio (WUR)

The weight/utility ratio (WUR) of the product shall not exceed the following values:

Product type/water hardness	WUR (g/kg laundry)		
	Soft	Medium	Hard
Powders	1.5	2.0	2.5
Liquids	2.0	2.5	3.0

WUR shall be calculated only for primary packaging and a calculation shall be made for every product within a multi- component system (including caps, stoppers and hand pumps/spraying devices) using the formula below:

$$WUR = \Sigma[(W_i + U_i)/(D_i * r_i)]$$

Where:

W_i = the weight (g) of the packaging component (i) including the label if applicable.

U_i = the weight (g) of non-recycled (virgin) material in the packaging component (i). If the proportion of recycled material in the packaging component is 0 % then $U_i = W_i$.

D_i = the number of functional units contained in the packaging component (i). The functional unit = dosage in g/kg laundry. Note that the highest recommended dosage for each water hardness must be used in the WUR calculation.

r_i = recycling figure, i.e. the number of times the packaging component (i) is used for the same purpose through a return or refill system. $r = 1$ if the packaging is not re-used for the same purpose. If the packaging is reused r is set to 1 unless the applicant can document a higher number.

Exceptions

Plastic/paper/cardboard packaging containing more than 80 % recycled material or more than 80 % plastic from renewable origin is exempted from this requirement.

(a) Weight/utility ratio (WUR)

The weight/utility ratio (WUR) of the product shall be calculated for the primary packaging only and shall not exceed the following values for the reference dosage:

Product type/water hardness mmol CaCO ₃ /l	WUR (g/kg laundry)		
	Soft <1,5	Medium 1.5-2.5	Hard >2,5
Powders	1,5	2,0	2,5
Liquids	2,0	2,5	3,0

Are exempted from this requirement:

- Plastic/paper/cardboard packaging containing more than 80 % recycled materials,
- Paper/cardboard packaging that comes 80% from certified sustainable sources,
- Plastic packaging containing more than 80 % plastic from sustainable sources.

Assessment and verification: the applicant shall provide the calculation of the WUR of the product. A spreadsheet for this calculation is available on the EU Ecolabel website. If the product is sold in different packaging (i.e. with different volumes), the calculation shall be submitted for each packaging size for which the EU Ecolabel shall be awarded.

The applicant shall provide a completed and signed declaration for the content of recycled material in the packaging.

- For paper and cardboard, packaging is regarded as recycled if the raw material used to make the packaging has been collected from packaging manufacturers at the distribution stage or at the consumer stage. Where the raw material is industrial waste from the material manufacturer's own production process, then

Packaging is regarded as recycled if the raw material used to make the packaging has been collected from packaging manufacturers at the distribution stage or at the consumer stage. Where the raw material is industrial waste from the material manufacturer's own production process, then the material will not be regarded as recycled.

Assessment and verification: the applicant shall provide the calculation of the WUR for every product. A spreadsheet for this calculation is available on the EU Ecolabel website. The applicant shall provide a completed and signed declaration for the content of recycled or material from renewable origin in the packaging. For approval of refill packaging, the applicant and/or retailer shall document that the refills will be/are available for purchase on the market.

(b) Plastic packaging Only phthalates that at the time of application have been risk assessed and have not been classified according to criterion 4(b) (and combinations hereof) may be used in the plastic packaging.

In order to allow for identification of different parts of the packaging for recycling, plastic parts in the primary packaging must be marked in accordance with DIN 6120, Part 2 or the equivalent. Caps and pumps are exempted from this requirement.

Assessment and verification: the applicant shall provide completed and signed declaration of compliance.

b) Plastic packaging

Only phthalates that at the time of application have been risk assessed and have not been classified according to criterion 4(b) may be used in the plastic packaging.

In order to allow for identification of different parts of the packaging for recycling, plastic parts in the primary packaging must be marked in accordance with DIN 6120, Part 2 or the equivalent. Caps and pumps are exempted from this requirement.

Assessment and verification: the applicant shall provide completed and signed declaration of compliance

the material will not be regarded as recycled.

- For plastic, packaging is regarded as recycled if the raw material used to make the packaging comes from industrial waste or has been collected from packaging manufacturer at the distribution or at the consumer stage.

The applicant shall provide a completed and signed declaration for the content of sustainably sourced material in the packaging. For paper and cardboard, the applicant shall provide TBD²⁰. For plastic, the applicant shall provide TBD.

The WUR is calculated as follows:

$$WUR = \sum ((W_i + U_i) / (D_i * R_i))$$

Where:

W_i: weight (g) of the primary packaging (i),

U_i: weight (g) of non-recycled and non-sustainably sourced packaging in the primary packaging (i). U_i = W_i unless the applicant can document otherwise,

D_i: number of reference doses contained in the primary packaging (i),

R_i: number of times that the primary packaging (i) can be refilled and used for the same purpose. R_i = 1 (packaging is not reused for the same purpose) unless the applicant can document a higher number.

(b) Design for recycling

Plastic packaging shall be designed to facilitate effective recycling by avoiding potential contaminants and incompatible materials that are known to impede separation or reprocessing or to reduce the quality of recyclate. The label or sleeve, closure and, where applicable, barrier coatings shall not comprise, either singularly or in combination the materials and components listed in Table 12. Pumps are exempted from this requirement.

Table 12: Materials and components excluded from packaging elements

Packaging element	Excluded materials and components ²¹
Label or sleeve	- PS label or sleeve in combination material used with a PET,

²⁰ TBD: to be determined. The acceptable certification schemes for the assessment and verification of this criterion have not been determined yet.

²¹ EVA – Ethylene Vinyl Acetate, EVOH – Ethylene vinyl alcohol, HDPE – High-density polyethylene, PET – Polyethylene terephthalate, PETG – Polyethylene terephthalate glycol-modified, PP – Polypropylene, PS – Polystyrene, PVC – Polyvinylchloride

	<table border="1"> <tr> <td></td> <td> PP or HDPE bottle - PVC label or sleeve in combination with a PET, PP or HDPE bottle - PETG label or sleeve in combination with a PET bottle - Sleeves made of different polymer than the bottle - Labels or sleeves that are metallised or are welded to a packaging body (in mould labelling) </td> </tr> <tr> <td>Closure</td> <td> - PS closure in combination a with a PET, HDPE or PP bottle - PVC closure in combination with a PET, PP or HDPE bottle - PETG closures and/or closure material with density of above 1 g/cm³ in combination with a PET bottle - Closures made of metal, glass, EVA - Closures made of silicone. Exempted are silicone closures with a density < 1 g/cm³ in combination with a PET bottle and silicone closures with a density > 1g/cm³ in combination with PEHD or PP bottle - Metallic foils or seals which remain fixed to the bottle or its closure after the product has been opened </td> </tr> <tr> <td>Barrier coatings</td> <td>Polyamide, EVOH, functional polyolefins, metallised and light blocking barriers</td> </tr> </table> <p>Assessment and verification: The applicant shall submit a signed declaration of compliance specifying the material composition of the packaging including the container, label or sleeve, adhesives, closure and barrier coating, and a sample of primary packaging.</p>		PP or HDPE bottle - PVC label or sleeve in combination with a PET, PP or HDPE bottle - PETG label or sleeve in combination with a PET bottle - Sleeves made of different polymer than the bottle - Labels or sleeves that are metallised or are welded to a packaging body (in mould labelling)	Closure	- PS closure in combination a with a PET, HDPE or PP bottle - PVC closure in combination with a PET, PP or HDPE bottle - PETG closures and/or closure material with density of above 1 g/cm ³ in combination with a PET bottle - Closures made of metal, glass, EVA - Closures made of silicone. Exempted are silicone closures with a density < 1 g/cm ³ in combination with a PET bottle and silicone closures with a density > 1g/cm ³ in combination with PEHD or PP bottle - Metallic foils or seals which remain fixed to the bottle or its closure after the product has been opened	Barrier coatings	Polyamide, EVOH, functional polyolefins, metallised and light blocking barriers
	PP or HDPE bottle - PVC label or sleeve in combination with a PET, PP or HDPE bottle - PETG label or sleeve in combination with a PET bottle - Sleeves made of different polymer than the bottle - Labels or sleeves that are metallised or are welded to a packaging body (in mould labelling)						
Closure	- PS closure in combination a with a PET, HDPE or PP bottle - PVC closure in combination with a PET, PP or HDPE bottle - PETG closures and/or closure material with density of above 1 g/cm ³ in combination with a PET bottle - Closures made of metal, glass, EVA - Closures made of silicone. Exempted are silicone closures with a density < 1 g/cm ³ in combination with a PET bottle and silicone closures with a density > 1g/cm ³ in combination with PEHD or PP bottle - Metallic foils or seals which remain fixed to the bottle or its closure after the product has been opened						
Barrier coatings	Polyamide, EVOH, functional polyolefins, metallised and light blocking barriers						
	<p>The minor proposed change in WUR aims to promote sustainably sourced raw materials. The currently present specific criteria on plastic packaging are proposed to be removed, while the recyclability of plastic packaging is proposed to be promoted by limiting combinations of materials that can hinder the recycling process.</p>						
Criterion 6 – Washing performance (fitness for use)							
<p>The primary laundering effects of the detergent such as dirt removal and stain removal capacity must be documented by the producer/applicant with the aid of artificially soiled test clothes which are washed in the process.</p> <p>The test may be conducted by an external or internal laboratory fulfilling the requirements in Appendix II(a). The test must be conducted with the recommended dosage and at the corresponding water hardness and the degree of soiling at the</p>	<p>Tests shall be carried out to ensure that the product has a satisfactory wash performance at the lowest recommended dosage for the water hardness and the degree of soiling. Test shall be performed according to laboratory tests (Appendix - to be added) or alternatively, user test (Appendix - to be added) may be used to document efficiency.</p> <p>The laboratory test shall be performed by an external laboratory complying with the Appendix (to be added). The tests shall be carried out at the water</p>						

<p>lowest recommended wash temperature. The measurements must be performed on unlaundered and laundered test clothes. Evaluation of the test results shall be made by the laboratory and it shall be clearly stated in the report.</p> <p>The measurements of secondary effects such as bleaching effect, bleaching/damage factor, ash content, greying and fluidity increase can for instance be made with multi wash test clothes and analysed according to standard ISO 4312.</p> <p>Examples of what may be used as wash test clothes included the following:</p> <ul style="list-style-type: none"> — WFK-PCMS-55 for industrial laundering processes, consisting of 13 different small dirt patches (WFK-Cleaning Technology Research Institute, Germany) — EMPA 102, consisting of 15 different fresh spots (Swiss EMPA-Testmaterials) — wash clothes of DTI (Danish Technology Institute) for industrial washing processes or equivalent <p>As an alternative to the above mentioned laboratory test, a user test may be used to document efficiency. The user test should then meet the requirements stated in Appendix II(b).</p> <p>For both laboratory test and user test the following apply:</p> <p>The test product must be tested against a reference product. The reference product may be a well-established product on the market or — in the case of a user test — the product normally used by the user. The test product must show efficiency equal to or better than the reference product.</p> <p>Assessment and verification: the applicant shall provide a test report stating that the product fulfils the minimum requirements defined in the chosen test; also see Appendix II(a) and II(b) respectively.</p>	<p>temperature stated in the Appendix to be added) or at the lowest temperature at which the product claims to be effective.</p> <p>The reference product is tested at the lowest recommended dosage that is stated on the packaging for the degree of soiling and water hardness. If no dosage instructions are provided, the same dosage is used as for the test product.</p> <p>Assessment and verification</p> <p>The applicant shall provide documentation confirming that the product has been tested under the laboratory tests conditions in accordance with Appendix (to be added). Information should be provided on:</p> <ul style="list-style-type: none"> (a) Type of spots that are representative for the kind of soiled expected in the areas where the products will be marketed. (b) Information on the recommended dosage at the corresponding water hardness and the lowest recommended wash temperature at which the product claims to be effective. (c) The product's ability to remove soiling from the surfaces or materials and the effectiveness of other products the detergent shall be used with (eg. Rinse-aids) . (d) Information about the reference product against which the test product has been tested: market leadership, lowest commended dosage or dosage used (if no information is provided) and temperature, date of purchase and date of testing. (e) Documentation confirming the compliance within the laboratory requirements included in Appendix (to be added). <p>If a user test is performed, the applicant should provide information on:</p> <ul style="list-style-type: none"> (a) the way the test users were selected, all raw data from the tests and the test procedure. (b) all reply forms received from the test users and the overall result on the wash performance of the user test specified in a table/a form. The response must be rated in accordance with Appendix (to be added). (c) information on how satisfied the test centre is with visit reporting arrangements and the categories rated.
	<p>The proposed changes bring harmonization among the detergents EU Ecolabel schemes. As there is no an EU Ecolabel protocol or an international standard for this product group, laboratory tests or alternatively user tests are proposed.</p>

Criterion 7 – Automatic dosing systems	
<p>Multi-component systems shall be offered to the customer together with an automatic and controlled dosing system.</p> <p>In order to ensure correct dosage in the automatic dosing systems, customer visits must be incorporated as a normal routine for manufacturers/suppliers. These customer visits are performed at all premises at least once a year during the license period; as a minimum they must include calibration of the dosage equipment. A third party can perform customer visits as well.</p> <p>Assessment and verification: the applicant shall provide a written description of responsibility for, frequency and content of customer visits.</p>	<p>Multi-component systems shall be offered together with an automatic and controlled dosing system.</p> <p>In order to ensure correct dosage in the automatic dosing systems, customer visits must be incorporated as a normal routine for manufacturers/suppliers. These customer visits are performed at all premises at least once a year during the license period; they must include calibration of the dosage equipment. A third party can perform customer visits.</p> <p>In exceptional cases, customer visits may be dispensed with if the distance and method of delivery makes the visit impracticable.</p> <p>Assessment and verification: the applicant shall provide a written description of responsibility for, frequency and content of customer visits.</p>
	<p>No changes are proposed to this criterion, except the addition of a clause for cases when the requirement for annual visits would be too restrictive.</p>
Criterion 8 – User information	
<p>(a) Information on the packaging/product information sheet</p> <p>The following washing recommendations (or equivalent) must appear on the packaging, and/or on a product information sheet. The washing recommendations must include examples of the classification of the textiles soiling degree and shall include the following text:</p> <ul style="list-style-type: none"> – Wash at the lowest recommended temperature – Always wash with the highest possible load, the textiles allow – Dose according to the dosing instructions and use the dosage according to water hardness and degree of soiling – Using this EU Ecolabelled product according to the dosage instructions will contribute to the reduction of water pollution, waste production and energy consumption. <p>(b) Claims on the packaging</p> <p>In general, claims on the packaging shall be documented through performance testing (e.g. claims of efficiency at low temperatures, claims of removal of certain stain types, claims of benefits for certain types or colours of textile or other claims of specific properties/benefits of the product). e.g. if a product claims efficiency at 20 °C, the performance test must be performed at ≤ 20 °C (and correspondingly</p>	<p>The detergent shall be accompanied by instructions for proper use so as to maximise product performance and minimise waste. <i>These instructions shall be legible or include graphical representation or icons and include information on:</i></p> <p>a) dosing instructions</p> <p>The primary packaging or product information sheet shall include information on the recommended dosage in g or ml for 1kg of laundry for various levels of water hardness and various levels of soiling.</p> <p>The packaging or product information sheet shall indicate the most prevalent water hardness in the area where the product is intended to be marketed or where this information can be found.</p> <p>The applicant shall take suitable steps to help consumers respect the recommended dosage, making available a dosage device and/or indicating the recommended dosage in a well-known metric.</p> <p>b) resource saving measures</p> <p>The applicant shall recommend washing at the lowest temperature the product claims effectiveness and washing with full loads.</p> <p>c) packaging disposal information</p> <p>The primary packaging or product information sheet shall include information on the reuse, recycling and/or correct disposal of packaging.</p>

<p>for other temperature claims below 40 °C). e.g. if a product claims to be efficient on certain stain types, this must be documented with performance test.</p>	<p>d) environmental information (voluntary) The following text is recommended to appear on the primary packaging or product information sheet but its use is voluntary: "All detergents have an effect on the environment. Always use the correct dose for maximum effectiveness, the lowest recommended temperature. This will minimize both energy and water consumption and reduce water pollution".</p> <p>Assessment and verification: The applicant shall provide a sample of the product label or product information sheet</p>
	<p>The proposed criterion is aligned with the corresponding criterion for other industrial and institutional products.</p>
<p>Criterion 9 – Information appearing on the EU Ecolabel</p>	
<p>(c) Information appearing on the EU Ecolabel</p> <p>The logo should be visible and legible. The use of the EU Ecolabel logo is protected in primary EU law. The EU Ecolabel registration/licence number must appear on the product, it must be legible and clearly visible.</p> <p>The optional label with text box shall contain the following text: — Reduced impact on aquatic ecosystems — Limited hazardous substances — Performance tested.</p> <p>The guidelines for the use of the optional label with text box can be found in the 'Guidelines for use of the Ecolabel logo' on the website: http://ec.europa.eu/environment/ecolabel/documents/logo_guidelines.pdf</p> <p>Assessment and verification (a-c): the applicant shall provide a sample of the product label and/or product sheet, together with a declaration of compliance with this criterion. Product claims shall be documented through appropriate test reports</p>	<p>The logo should be visible and legible. The use of the EU Ecolabel logo is protected in primary EU law. The EU Ecolabel registration/licence number must appear on the product, it must be legible and clearly visible. The optional label with text box shall contain the following text: - reduced impact on aquatic ecosystems - limited hazardous substances - performance tested</p> <p>Assessment and verification: The applicant shall provide a sample of the product label</p>
	<p>No content-wise changes are proposed. In order to be aligned with the other detergent product group criteria, it is proposed to set this as a separate criterion.</p>

Criterion NEW: Sustainable sourcing of palm oil, palm kernel oil and their derivatives

	<p>Ingredients used in the product which are derived from palm oil or palm kernel oil must be sourced from plantations that meet the criteria for sustainable management that have been developed by multi-stakeholder organisations who have a broad based membership including NGOs, industry and government.</p> <p>Assessment and verification: the applicant shall provide third-party certifications that the palm oil used in the manufacturing of the product originates from sustainable managed plantations. Certifications accepted shall include RSPO (by identified preserved, segregates or mass balance) or any equivalent scheme based on multi-stakeholder sustainable management criteria. For chemical derivatives of palm oil it is acceptable to demonstrate sustainability for these through book and claim systems such as GreenPalm or equivalent.</p>
	<p>New criterion proposal to ensure that palm oil, palm kernel oil and their derivatives come from sustainable source.</p>

2.7 Revision of main decision text

2.7.1 Name, definition and scope for EU Ecolabel

Current definition and scope

The product group 'Industrial and Institutional Laundry Detergents' shall comprise: laundry detergent products performed by professional users in the industrial and institutional sector.

Included in this product group are multi-component-systems constituting of more than one component used to build up a complete detergent or a laundering program for automatic dosing system.

This product group shall not comprise products for obtaining textile attributes such as water-repellent, waterproof or fire-proof, etc. Furthermore, the product group shall not comprise products that are dosed by carriers such as sheets, cloths or other materials, as well as washing auxiliaries used without subsequent washing, such as stain removers for carpets and furniture upholstery.

Consumer laundry products are excluded from the scope of this product group.

Proposal for new definition and scope

The product group 'Industrial and Institutional Laundry Detergents' shall comprise: laundry detergent products [used by professionals in industrial and institutional facilities](#).

Included in this product group are multi-component-systems constituting of more than one component used to build up a complete detergent or a laundering program for automatic dosing system. [Multi-component systems may incorporate a number of products including fabric softeners, stain removers and rinsing agents](#).

This product group shall not comprise products which induce textile attributes such as [water-repellency, waterproof-ness or fire retardancy](#), etc. Furthermore, the product group shall not comprise products that are dosed by carriers such as sheets, cloths or other materials, as well as washing auxiliaries used without subsequent washing, such as stain removers for carpets and furniture upholstery.

Consumer laundry products are excluded from the scope of this product group.

Rationale and discussion

No change is proposed to the **name** of the EU Ecolabel as it is in line with the Detergents Regulation and does not require clarification.

Following stakeholder feedback during consultation (Section 2.3 of Preliminary Report), it is proposed to include several minor changes to the **definition** of the product. First, the wording of the areas of applicability of the detergents is proposed to be modified in order to bring further harmonisation between this EU Ecolabel, the other EU Ecolabels covering industrial and institutional product groups and the Detergents Regulation. Second, the addition of a clarification of what constitutes of multi-component system is proposed through the inclusion of examples. Finally, a grammatical change is proposed in the description of types of products that are not covered by the EU Ecolabel. Currently the text reads "for obtaining textile attributes such as water-repellent, waterproof or fire-proof, etc." where "water-repellent", etc. are adjectives whereas nouns should be used as the text refers to "textile attributes".

The **scope** of the EU Ecolabel is proposed to remain the same. Market analysis showed that the current criteria covers all products on the market (Section 3 of the Preliminary Report) and stakeholder consultation and the review of other ecolabels and voluntary agreements for industrial and institutional laundry detergents have not raised further issues on the scope (Sections 2.3 and 2.5 of the Preliminary Report).

Consultation questions

1	Do you agree with the minor changes proposed to the definition?
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2.7.2 Definitions

Current definition text
(inexistent)

Proposal for definitions text
(1) "ingoin substances and mixtures" means <ul style="list-style-type: none">- biocides, fragrances, colouring agents, and mixtures thereof, regardless of concentration in the final formulation,- substances and mixtures intentionally added, by-products and impurities from raw materials, the concentration of which equals or exceeds 0,010% by weight of final formulation, (2) "primary packaging" means packaging conceived so as to constitute the smallest sales unit of distribution to the final user or consumer at the point of purchase in direct contact with the content, including label where applicable.

Rationale and discussion

For further information on the update of definitions listed, refer to the Technical Annexe (Section 7.4).

Several definitions are proposed to be added in the main decision text in order to clarify and simply the subsequent wording of criteria, including a definition for "ingoin substances and mixtures" to provide information on the measurement thresholds for the different types of substances and mixtures covered.

The definition for "primary packaging" is proposed to be moved from the packaging criterion to the definition section. The definitions of primary packaging for industrial and institutional products are different as single dose products represent a less significant share of the market for these laundry detergents than for those aimed at domestic use.

2.8 Revision of existing criteria of eu ecolabel

2.8.1 Assessment and verification requirements and measurement thresholds

Current assessment and verification requirements and measurement thresholds

a) Requirements

The specific assessment and verification requirements are indicated within each criterion

Where the applicant is required to provide declarations, documentation, analyses test reports, or other evidence to show compliance with the criteria, it is understood that these may originate from the applicant and/or his supplier(s) and/or their supplier(s), et cetera, as appropriate.

Where possible, the testing should be performed by laboratories that meet the general requirements of EN ISO 17025 or equivalent.

Where appropriate, test methods other than those indicated for each criterion may be used if the competent body assessing the application accepts their equivalence.

Appendix I makes reference to the detergent ingredient database (DID list) which contains the most widely used ingoing substances used in detergent formulations. It shall be used for deriving the data for the calculations of the Critical Dilution Volume (CDV) and for the assessment of the biodegradability of the ingoing substances. For substances not present on the DID list, guidance is given on how to calculate or extrapolate the relevant data. The latest version of the DID list is available from the EU Ecolabel website or via the websites of the individual competent bodies.

Where appropriate, competent bodies may require supporting documentation and may carry out independent verifications.

b) Measurement thresholds

Compliance with the ecological criteria is required for substances intentionally added, as well as for by-products and impurities from raw materials, the concentration of which equals or exceeds 0,010 % by weight of final formulation.

For biocides, colouring agents and fragrance compliance with the criteria is required regardless of their concentration.

Substances meeting the threshold limit as listed above are hereby referred to as 'Ingoing substances'.

For all products: it is the highest total dosage recommended for the individual degree of soiling which must comply with the ecological criteria. If the dosage is stated in intervals the worst case dosage must be used when the criterions are assessed.

Proposal for assessment and verification requirements and measurement thresholds

c) Requirements

The specific assessment and verification requirements are indicated for each criterion.

Where the applicant is required to provide declarations, documentation, analyses, test reports, or other evidence to show compliance with the criteria, [these may originate from the applicant or his supplier\(s\) or both](#).

Where possible, the testing shall be performed by laboratories that meet the general requirements of European Standard EN ISO 17025 or equivalent.

Where appropriate, test methods other than those indicated for each criterion may be used if the competent body assessing the application accepts their equivalence.

Where appropriate, competent bodies may require supporting documentation and may carry out independent verifications.

The Appendix makes reference to the "Detergent Ingredient Database" list (DID list) which contains the most widely used ingredients in detergents and cosmetics formulations. It shall be used for deriving the data for the calculations of the Critical Dilution Volume (CDV) and for the assessment of the

biodegradability of the ingoing substances. For substances not present on the DID list, guidance is given on how to calculate or extrapolate the relevant data. The latest version of the DID list is available from the EU Ecolabel website or via the websites of the individual competent bodies.

The following information shall be provided to the competent body:

(i) The full formulation of the product indicating trade name, or in case of a multi-component system, a list of all products part of that system, chemical name, CAS no. and INCI designations, DID no.2, the ingoing quantity including and excluding water, the function and the form of all ingredients regardless of concentration;

(ii) safety data sheets for each ingoing substance or mixture in accordance with Regulation (EC) No 1907/2006 of the European Parliament and of the Council.

d) Measurement thresholds

Compliance with the ecological criteria is required for all ingoing substances, with the exception of compliance with criterion X(b) and X(c) for preservatives, colorants and fragrances which is requested when their concentration equals or exceeds 0,010% by weight in the final formulation.

Rationale and discussion

a) Requirements

The text regarding the assessment and verification requirements is proposed to be aligned with the text from the EU Ecolabel on Rinse-off Cosmetics. One of the most significant changes proposed is the addition of the text that clarifies what is to be provided to the CB – it was previously found in the section on the assessment and verification of the functional unit. This change simplifies the reading of the criteria and harmonises the text with the ones for the other product groups being revised.

b) Measurement thresholds

The measurement threshold is the concentration of ingredients in the product for which there is a requirement for documentation of compliance with the ecological criteria. It is proposed to harmonise the measurement thresholds for all the EU Ecolabels in the detergents group and the EU Ecolabel for rinse-off cosmetics. The new text and thresholds are discussed in the Technical Annexe (Section 7.5).

In the specific case of the EU Ecolabel for industrial and institutional laundry detergents, the new text proposes the same thresholds as in the current one except in the case of sections (b) and (c) of the criterion on restricted substances. In the current text, fragrances, preservatives and colouring agents are to be taken into account regardless of concentration for all requirements and in the proposed text, the measurement thresholds for these substances and mixtures is set to 0,01% as it is difficult to guarantee accuracy at lower limits.

2.8.2 Functional unit (reference dosage)

Current requirements for functional unit

The functional unit for this product group shall be expressed in g/kg laundry (grams per kilo laundry)

Requirements relating to assessment and verification of the functional unit:

The full formulation indicating trade name, chemical name, CAS No, DID No (*), the ingoing quantity including and excluding water, the function and the form of all the ingoing substances (regardless of concentration) in the product shall be submitted to the competent body. A sample of the artwork including dosage recommendations must be submitted to the competent body.

Safety data sheets for each ingoing substance shall be submitted to the competent body in accordance with Regulation (EC) No 1907/2006 of the European Parliament and of the Council (1).

Part A and Part B of the DID list can be found on the EU Ecolabel website:
http://ec.europa.eu/environment/ecolabel/documents/did_list/didlist_part_a_en.pdf
http://ec.europa.eu/environment/ecolabel/documents/did_list/didlist_part_b_en.pdf

Proposal for reference dosage

The following dosage is taken as the reference dosage for the calculations aiming at documenting compliance with the EU Ecolabel criteria and for testing of cleaning ability:

Worst-case dosage recommended by the manufacturer to wash one kilogram of dry laundry (indicated in g/kg laundry or ml/kg laundry). The worst-case scenario is considered to be the worst soiling acceptable for clothes (see classification in table below) and the maximum water hardness found at the location where the product is marketed. All products in a multi-component system have to be included with the worst case dosage when assessments of the criteria are made.

Examples of degree of soiling:

Light	Medium	Heavy
Hotel: bed-linen, bedclothes and towels, etc. (towels may be considered heavily soiled) Cloth hand towel rolls	Work clothes: institutions/retail/service, etc. Restaurants: table-cloths, napkins, etc. Mops and mats	Work clothes: industry/kitchen/butchering, etc. Kitchen textiles: clothes, dish towels, etc. Institutions as hospitals: bed-linen, bedclothes, contour sheets, patient clothing, doctor's coat or coatdress, etc.

Rationale and discussion

A reference dosage is the quantity of product used when calculating compliance with ecological requirements such as biodegradability and CDV. Further information on functional units and reference dosage in EU Ecolabels related to detergents can be found in the Technical Annexe (Section 7.6).

In the case of industrial and institutional laundry detergents, it is proposed to remove the paragraph on the functional unit and to introduce the notion of "reference dosage" as it is this quantity that should be used when calculating compliance with the different requirements in the EU Ecolabel. As there are multiple applications for industrial and institutional laundry detergents and the dosage can highly vary based on the type of soiling, the reference dosage is considered to be the one recommended for the worst-case scenario by the manufacturer (heavily soiled laundry). This specification is currently included in Criterion 1 on Dosage Requirements, but it is proposed to include it in the general statements that are applicable to all requirements.

Consultation questions

1	Do you agree with the changes proposed to the reference dosage?
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2.8.3 Criterion 1: Product and dosage information

Current criterion 1

The recommended total dosage for 1 kg of laundry according to the degree of soiling and water hardness shall be given in g/kg laundry or ml/kg laundry. All products in a multi-component system have to be included with the worst case dosage when assessments of the criteria are made.

Example of degree of soiling:

Light	Medium	Heavy
Hotel: bed-linen, bedclothes and towels, etc. (towels may be considered heavily soiled) Cloth hand towel rolls	Work clothes: institutions/retail/service, etc. Restaurants: table-cloths, napkins, etc. Mops and mats	Work clothes: industry/kitchen/butchery, etc. Kitchen textiles: clothes, dish towels, etc. Institutions as hospitals: bed-linen, bedclothes, contour sheets, patient clothing, doctor's coat or coatdress, etc.

The product name, or in case of a multi-component system, a list of all products part of that system, together with the recommended water hardness (soft, medium or hard) and the intended degree of soiling shall be provided.

The applicant must document compliance with criteria 2, 3 and 6 for all product names.

Assessment and verification: the applicant shall provide the product name, or in case of a multi-component system, a list of all products part of that system, together with exact formulation of the product(s) and the label or artwork including dosage instructions according to the three degrees of soiling and water hardness. The density (g/ml) shall be stated for all products (either on the packaging or in a Safety Data Sheet).

Proposed criterion 1

Removal of criterion

Rationale and discussion

This criterion presents requirements that are already included in the section on "reference dosage" and in the criterion on "user instructions". Indeed, the reference dosage is required to be given for the worst-case scenario based on the maximum soiling that is expected and the water hardness of the location where the product is marketed. The criterion on "user instructions" requires the presentation of labels and artwork for dosage instructions for different levels of soiling and water hardness.

Thus, it is proposed to remove this criterion in order to simplify the EU Ecolabel and avoid repetition.

Consultation questions

1	Is the removal of this criterion appropriate?
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2.8.4 Criterion 2: Toxicity to aquatic organisms: Critical dilution volume (CDV)

Current criterion 2

The critical dilution volume of the product must not exceed the following limits (CDV_{chronic}):

Soft water (0-6 °dH)	CDV_{chronic} (L/kg laundry)		
Product type/Degree of soiling	Light	Medium	Heavy
Powder	30,000	40,000	50,000
Liquid	50,000	60,000	70,000
Multi-component-system	50,000	70,000	90,000

Medium water (7-13 °dH)	CDV_{chronic} (L/kg laundry)		
Product type/Degree of soiling	Light	Medium	Heavy
Powder	40,000	60,000	80,000
Liquid	60,000	75,000	90,000
Multi-component-system	60,000	80,000	100,000

Hard water (>14 °dH)	CDV_{chronic} (L/kg laundry)		
Product type/Degree of soiling	Light	Medium	Heavy
Powder	50,000	75,000	90,000
Liquid	75,000	90,000	120,000
Multi-component-system	75,000	100,000	120,000

The full formula for calculating the CDV value is given in the criteria document.

Biocides, colouring agents and fragrances present in the product must also be included in the CDV calculation even if the concentration is lower than 0.01 % (100 ppm). Because of degradation in the wash process, separate rules apply to the following substances:

- hydrogen peroxide (H₂O₂) – not to be included in the calculation of CDV.
- peracetic acid – to be included in the calculation as acetic acid.

Assessment and verification: the applicant shall provide calculation of the CDV_{chronic} of the product. A spreadsheet for calculation of the CDV value is available on the EU Ecolabel website.

The values of the DF and TF parameters shall be as given in the Detergent Ingredient Database list (DID list). If the substance is not found on the DID list, the parameters shall be calculated using the guidelines in part B of the DID list and attaching the associated documentation.

Proposal for criterion 1 – "Toxicity to aquatic organisms"

The critical dilution volume (CDV) of the product must not exceed the following limits [for the reference dosage](#):

Soft water (<1,5 mmol CaCO₃/L)			
Degree of soiling Product type	Light	Medium	Heavy
Powder	30 000	40 000	50 000
Liquid	50 000	60 000	70 000
Multi-component-system	50 000	70 000	90 000

Medium water (1,5 – 2,5 mmolCaCO₃/L)			
Degree of soiling Product type	Light	Medium	Heavy
Powder	40 000	60 000	80 000

Liquid	60 000	75 000	90 000
Multi-component-system	60 000	80 000	100 000

Hard water (> 2,5 mmol CaCO ₃ /L)			
Degree of soiling Product type	Light	Medium	Heavy
Powder	50 000	75 000	90 000
Liquid	75 000	90 000	120 000
Multi-component-system	75 000	100 000	120 000

Assessment and verification: Calculation of the CDV of the product. A spreadsheet for calculation of the CDV value is available on the EU Ecolabel website.

The Critical Dilution Volume (CDV) is calculated for all ingoing substances and mixtures (i) in the product using the following equation:

$$CDV = \sum CDV(i) = 1000 \cdot \sum dosage(i) \cdot \frac{DF(i)}{TF(i)}$$

Where:

dosage(i): weight (g) of the substance or mixture *i* in the reference dose,

DF(i): degradation factor for the substance or mixture *i*

TF(i): toxicity factor for the substance or mixture *i*

The values of *DF(i)* and *TF(i)* shall be as given in the DID list Part A (Appendix I). If a substance or mixture is not included in the DID list Part A, the applicant shall estimate the values follow the approach described in the DID list Part B (Appendix I).

Because of the degradation of the substances in the wash process, separate rules apply to the following substances:

- hydrogen peroxide (H₂O₂) – not to be included in calculation of CDV
- peracetic acid – to be included in the calculation as acetic acid.

Rationale and discussion

Detergents have great potential to cause disturbances in aquatic ecosystems as they cause chemical emissions to water during their entire life cycle. For this reason, EU Ecolabels limit the amount of emissions due to EU Ecolabel products. Critical Dilution Volume (CDV) is used in the current EU Ecolabels related to detergents to assess toxicity to aquatic organisms. It is proposed to keep this assessment method in this revision. Further description of CDV and discussion of other assessment methods can be found in the Technical Annexe (Section 7.8).

To align with the other EU Ecolabels related to detergents, it is proposed to shorten the criterion's **name** to "toxicity to aquatic organisms".

For this product group the CDV calculation is set for different levels of water hardness and degrees of soiling, as well as for different product types (liquid/powder/multi-functional). This is because the required dosage/product formulation is dependent on the degree of soiling and level of water hardness. As outlined in the reference dosage (Section 7.6), this product group covers a wide range of potential washing requirements including hotel bed linen, restaurant table cloths and sheets used in hospitals. It is important that these different needs are reflected in the requirements of the EU Ecolabel for IILD.

The CDV value for the IILD product group are less strict than those set for laundry detergents for domestic use. The levels for professional products reflect the fact that textiles washed have tougher stains and shorter wash cycles are used. Examples of soiling and wash requirements of users of IILD products include: removal of soil from hospital goods and dirt from engineering industry as well as maintenance of whiteness for linens used in the hospitality industry. As a consequence products are more concentrated than those intended for domestic use.

An overview of the differences in LD and IILD is presented in Section 2.6 of the Preliminary Report.

No changes have been proposed for the CDV limits for this product group as not enough CDV values of products were obtained from stakeholders for IILD products to substantiate a change. In fact CDV values for only four different products were obtained (Table 13). The values obtained were significantly lower than the current limits for all water hardness levels. For multi-component liquid detergents they range from 20,700 to 38,700 l/kg laundry for medium soiled textiles in medium water hardness.

Table 13: CDV ranges found for IILD products

	Soiling	Values	CDV (L/kg laundry)			Current Limit (L/kg laundry) (medium water)
			Min	Max	Average	
I&I Multi-component liquid	Light	3	14,700	32,700	23,600	60,000
	Medium	3	20,700	38,700	29,600	80,000
	Heavy	3	26,100	43,900	35,100	100,000
I&I Heavy duty powder	N/A	1	34,700	34,700	34,700	40,000 (light soilage) 60,000 (medium soilage) 80,000 (medium soilage)

Water hardness is proposed to be referenced in mmol CaCO₃/l, as indicated in the Technical Annexe (Section 7.7.1) the ranges commonly used with mmol CaCO₃/l are different than those that are indicated in the current text with °dH.

Restructuring of tables (for discussion, not set as a proposal)

The CDV values are currently presented in tables related to water hardness as the principle parameter of interest. In reality, the principle parameter of interest to applicants is the format of the detergent: powder, liquid or multi-format. It would be more sensible to organise the tables per product format and have the water hardness/degree of soiling matrix within each table. This information would also be aligned to the way users would expect to see usage information presented on packaging. The change would be simple to implement.

Consultation questions	
1	Should the CDV limits be changed? Input is requested for further limit revision
2	Should the tables be changed to be differentiated by product type and not by water hardness?

2.8.5 Criterion 3: Biodegradability of organic substances

Current criterion 3

a) Biodegradability of surfactants

All surfactants must be biodegradable under aerobic conditions

All non-ionic and cationic surfactants must also be biodegradable under anaerobic conditions

b) Biodegradability of organic substances

The content of organic substances in the product that are aerobically non-biodegradable (not readily biodegradable aNBO) or anaerobically non-biodegradable (anNBO) shall not exceed the following limits:

aNBO

Soft water (0-6 °dH)	aNBO (g/kg laundry)		
Product type/Degree of soiling	Light	Medium	Heavy
Powder	0.70	1.10	1.40
Liquid	0.50	0.60	0.70
Multi-component system	1.25	1.75	2.50

Medium water (7-13 °dH)	aNBO (g/kg laundry)		
Product type/Degree of soiling	Light	Medium	Heavy
Powder	1.10	1.40	1.75
Liquid	0.60	0.70	0.90
Multi-component system	1.75	2.50	3.75

Hard water (>14 °dH)	aNBO (g/kg laundry)		
Product type/Degree of soiling	Light	Medium	Heavy
Powder	1.40	1.75	2.20
Liquid	0.70	0.90	1.20
Multi-component system	2.50	3.75	4.80

anNBO

Soft water (0-6 °dH)	anNBO (g/kg laundry)		
Product type/Degree of soiling	Light	Medium	Heavy
Powder	0.70	1.10	1.40
Liquid	0.50	0.60	0.70
Multi-component system	1.25	1.75	2.50

Medium water (7-13 °dH)	anNBO (g/kg laundry)		
Product type/Degree of soiling	Light	Medium	Heavy
Powder	1.10	1.40	1.75
Liquid	0.60	0.70	0.90
Multi-component system	1.75	2.50	3.75

Hard water (>14 °dH)	anNBO (g/kg laundry)		
Product type/Degree of soiling	Light	Medium	Heavy
Powder	1.40	1.75	2.20
Liquid	0.70	0.90	1.20
Multi-component system	2.50	3.75	4.80

Assessment and verification: the applicant shall provide documentation for the degradability of surfactants as well as the calculation of aNBO and anNBO for the product. A spreadsheet for use in calculating aNBO and anNBO values is available on the EU Ecolabel website.

For both surfactants and aNBO and anNBO values reference should be done to the DID List. For ingoing substances which are not included in the DID list, the relevant information from literature or other

sources, or appropriate test results, showing that they are aerobically and anaerobically biodegradable shall be provided as described in Appendix I.

Note that TAED should be considered as anaerobically biodegradable.

In the absence of documentation in accordance with the above requirements, a substance other than a surfactant may be exempted from the requirement for anaerobic degradability if one of the following three alternatives is fulfilled:

1. Readily degradable and has low adsorption ($A < 25\%$) or
2. Readily degradable and has high desorption ($D > 75\%$) or
3. Readily degradable and non-bioaccumulating.

Testing for adsorption/desorption may be conducted in accordance with OECD guidelines 106.

Proposed criterion 3 – "Biodegradability"

a) Biodegradability of surfactants

All surfactants shall be biodegradable under aerobic conditions.

All non-ionic and cationic surfactants shall be biodegradable under anaerobic conditions.

b) Biodegradability of organic substances and mixtures

The content of organic substances and mixtures in the product that are aerobically non-biodegradable (not readily biodegradable aNBO) or anaerobically non-biodegradable (anNBO) shall not exceed the following limits for the reference dosage:

aNBO (g/kg laundry)

Soft water (<1,5 mmol CaCO ₃ /L)			
Degree of soiling Product type	Light	Medium	Heavy
Powder	0,70	1,10	1,40
Liquid	0,50	0,60	0,70
Multi-component-system	1,25	1,75	2,50

Medium water (1,5 – 2,5 mmolCaCO ₃ /L)			
Degree of soiling Product type	Light	Medium	Heavy
Powder	1,10	1,40	1,75
Liquid	0,60	0,70	0,90
Multi-component-system	1,75	2,50	3,75

Hard water (> 2,5 mmol CaCO ₃ /L)			
Degree of soiling Product type	Light	Medium	Heavy
Powder	1,40	1,75	2,20
Liquid	0,70	0,90	1,20
Multi-component-system	2,50	3,75	4,80

anNBO (g/kg laundry)

Soft water (<1,5 mmol CaCO ₃ /L)			
Degree of soiling Product type	Light	Medium	Heavy
Powder	0,70	1,10	1,40
Liquid	0,50	0,60	0,70
Multi-component-system	1,25	1,75	2,50

Medium water (1,5 – 2,5 mmolCaCO ₃ /L)			
Degree of soiling Product type	Light	Medium	Heavy
Powder	1,10	1,40	1,75
Liquid	0,60	0,70	0,90
Multi-component-system	1,75	2,50	3,75

Hard water (> 2,5 mmol CaCO ₃ /L)			
Degree of soiling Product type	Light	Medium	Heavy
Powder	1,40	1,75	2,20
Liquid	0,70	0,90	1,20
Multi-component-system	2,50	3,75	4,80

Assessment and verification: The applicant shall provide documentation for the degradability of surfactants, as well as the calculations of aNBO and anNBO for the product. A spreadsheet for use in calculating aNBO and anNBO values is available on the EU Ecolabel website.

For both surfactants and aNBO and anNBO values, reference shall be made to the DID List. For ingredients which are not included in the DID List, the relevant information from literature or other sources, or appropriate test results, showing that they are aerobically and anaerobically biodegradable shall be provided as described in Appendix I.

In the absence of documentation in accordance with the above requirements, an incoming substances and mixtures other than a surfactant may be exempted from the requirement for anaerobic degradability if one of the following three alternatives is fulfilled:

1. Readily degradable and has low adsorption ($A < 25\%$);
2. Readily degradable and has high desorption ($D > 75\%$);
3. Readily degradable and non-bioaccumulating.

Testing for adsorption/desorption may be conducted in accordance with OECD guidelines 106.

Rationale and discussion

In the current EU Ecolabel industrial and institutional laundry detergents the biodegradability of surfactants and organic substances is considered. As explained in the Technical Annex (Section 7.9), the use of non-biodegradable (aNBO, anNBO) ingredients should be limited as substances which do not degrade rapidly in the environment have the potential to exert toxicity. A limitation (i.e. having maximum concentrations) allows for

As six EU Ecolabels related to detergents are being revised at the same time and as these products often have similar formulations, it is judicious to consider the harmonisation of their criteria. In the case of biodegradability, the current six EU Ecolabel criteria approach the subject using three different approaches and stakeholder consultation has yielded a multitude of opinions. It has thus been decided a discussion during the 1st AHWG meeting will be conducted. As a starting point for the harmonised approach the criterion included in the most recently voted criteria for industrial and institutional products (laundry and dishwasher detergents) is proposed. In this sense the current criterion is proposed to be kept. It requires aerobic (all) and anaerobic (only for non-ionic and cationic) degradability of surfactants and limits the amount of non-aerobically and non-anaerobically degradable organics. At present the values for aNBO and anNBO of the products are collected. This exercise will help evaluating validity of the current thresholds. The criterion on biodegradability will be revised following discussions with stakeholders.

Water hardness is proposed to be referenced in mmol CaCO₃/l, as indicated in the Technical Annex (Section 7.7.1) the ranges commonly used with mmol CaCO₃/l are different than those that are indicated in the current text with °dH.

Consultation questions

1	Do you agree with keeping the current criterion?
2	What would be the appropriate limits for aNBO and anNBO? Could stakeholders please share with the project team data on the amount of aNBO and anNBO organic substances and mixtures in the product groups covered?

2.8.6 Criterion 4: Excluded or limited substances and mixtures

Current criterion 4a Specified excluded ingoing substances

The following ingredients must not be included in the product, neither as part of the formulation nor as part of any mixture included in the formulation:

- phosphates
- APEO (alkylphenoethoxylates) and APD (alkylphenols and derivatives thereof)
- EDTA (ethylenediaminetetraacetate).

Assessment and verification: the applicant shall provide a declaration supported by declarations from manufacturers of substances, as appropriate, confirming that the listed substances have not been included in the product.

Proposal for criterion Xa – "Specified excluded ingoing substances and mixtures"

The product shall not be formulated or manufactured using any of the following compounds:

- (i) Phosphates
- (ii) [Phosphonates that are not readily biodegradable](#)
- (iii) APEO (alkylphenol ethoxylates) and APD (alkylphenol derivatives)
- (iv) EDTA (ethylenediaminetetraacetate)
- (v) [Nitro-musks and polycyclic musks](#)
- (vi) [Hydroxyisohexyl 3-cyclohexene carboxaldehyde \(HICC\)](#)
- (vii) [Atranol and Chloroatranol](#)
- (viii) [Fragrance substances subject to the declaration requirement provided for in Regulation \(EC\) No 648/2004 of the European Parliament and of the Council on detergents \(Annex VII\) and which are not already excluded by criterion 2b shall not be present in quantities \$\geq 0,010\%\$ \(\$\geq 100\$ ppm\) per substance.](#)

Assessment and verification: the applicant shall provide a declaration supported by declarations from manufacturers of substances, as appropriate, confirming that the listed substances have not been included in the product.

The applicant shall also provide a declaration from the fragrance manufacturer specifying the content of each of the substances in the fragrances which are listed in Annex III of the Regulation (EC) No 1223/2009.

Rationale and discussion

Limiting environmentally harmful substances from the product group of IILDs is important, as most ingredients of these products end up in the aquatic environment through sewage treatment systems after use and sometimes they can be released directly to aquatic environment.

The requirement (a) *Specified excluded ingoing substances and mixtures* lists substances of concern, which (due to their properties and related impacts) are undesired in Ecolabel products. Among them there are certainly also substances which are classified or excluded above the concentration of 0,01% by sub-section (b) *Hazardous substances and mixtures* of this criterion. Nevertheless, due e.g. lack of harmonised classification and their potential hazard, it seems reasonable to cover them under this section and exclude completely from the EU Ecolabel products. We are conscious that at this stage overlaps in criteria regarding substances are possible. This will be tackled at the later stage of the process.

The information and grounds that lead to the exclusion of the following substances and substance groups are summarized in the Technical Annexe (Section 7.10).

Harmonisation with LD product group

Where possible, the list of specified excluded ingoing substances should be harmonised between the IILD and LD product groups. The Commission Statement following the previous revision on of the requirements expressed that the possibility of a closer alignment between the industrial and institutional and domestic criteria should be investigated. As a consequence the substances to be excluded in various product groups will be discussed in a horizontal session in the 1st AHWG meeting.

At present the following substances are proposed to be added to the excluded substances list based on initial feedback and information collected (however, further consideration of the scope if this criterion is needed):

- Nitro-musks and polycyclic musks (covered previously under criterion for fragrances)
- Hydroxyisohexyl 3-cyclohexene carboxaldehyde (HICC), Atranol and Chloroatranol;

Consultation questions	
1	Are exclusions required for other substances?

Current criterion 4b	
According to Article 6(6) of the Regulation (EC) No 66/2010 on the EU Ecolabel, the product or any part of it thereof shall not contain substances or mixtures meeting the criteria for classification with the hazard classes or categories in accordance with Regulation (EC) No 1272/2008 specified below nor shall it contain substances referred to in Article 57 of Regulation (EC) No 1907/2006. The risk phrases below generally refer to substances. However, if information on substances cannot be obtained, the classification rules for mixtures apply.	
List of hazard statements:	
GHS Hazard Statement	EU Risk Phrase
H300 Fatal if swallowed	R28
H301 Toxic if swallowed	R25
H304 May be fatal if swallowed and enters airways	R65
H310 Fatal in contact with skin	R27
H311 Toxic in contact with skin	R24
H330 Fatal if inhaled	R23/26
H331 Toxic if inhaled	R23
H340 May cause genetic defects	R46
H341 Suspected of causing genetic defects	R68
H350 May cause cancer	R45
H350i May cause cancer by inhalation	R49
H351 Suspected of causing cancer	R40
H360F May damage fertility	R60
H360D May damage the unborn child	R61
H360FD May damage fertility. May damage the unborn child	R60/61/60-61
H360Fd May damage fertility. Suspected of damaging the unborn child	R60/63
H360Df May damage the unborn child. Suspected of damaging fertility	R61/62
H361f Suspected of damaging fertility	R62
H361d Suspected of damaging the unborn child	R63
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.	R62-63
H362 May cause harm to breast fed children	R64
H370 Causes damage to organs	R39/23/24/25/26/27/28
H371 May cause damage to organs	R68/20/21/22
H372 Causes damage to organs through prolonged or repeated exposure	R48/25/24/23
H373 May cause damage to organs through prolonged or repeated exposure	R48/20/21/22

H400 Very toxic to aquatic life	R50
H410 Very toxic to aquatic life with long-lasting effects	R50-53
H411 Toxic to aquatic life with long-lasting effects	R51-53
H412 Harmful to aquatic life with long-lasting effects	R52-53
H413 May cause long-lasting harmful effects to aquatic life	R53
EUH059 Hazardous to the ozone layer	R59
EUH029 Contact with water liberates toxic gas	R29
EUH031 Contact with acids liberates toxic gas	R31
EUH032 Contact with acids liberates very toxic gas	R32
EUH070 Toxic by eye contact	R39-41
Sensitising substances	
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled	R42
H317: May cause allergic skin reaction	R43

Note that this criterion also applies to known degradation products such as formaldehyde from formaldehyde releasers.

Substances or mixtures which change their properties through processing (e.g. become no longer bioavailable, or undergo chemical modification in a way that removes the previously identified hazard) are exempted from the above requirement.

The final product must not be labelled according to the hazard statements above.

Derogations: the following substances or mixtures are specifically exempted from this requirement:

Surfactants in concentrations <20 % in the final product	H400 Very toxic to aquatic life	R50
Surfactants in concentrations <25 % in the final product (*)	H412 Harmful to aquatic life with long-lasting effects	R52-53
Biocides used for preservation purposes (**) (only for liquids with pH between 2 and 12 and maximum 0.10 % w/w of active material)	H331: Toxic if inhaled H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled H317: May cause allergic skin reaction H400: Very toxic to aquatic life	R23 R42 R43 R50
Enzymes (***)	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled H317: May cause allergic skin reaction H400: Very toxic to aquatic life	R42 R43 R50
Bleach catalysts (***)	H400: Very toxic to aquatic life	R50
NTA as an impurity in MGDA and GLDA (****)	H351 suspected of causing cancer	R40

(*) This derogation is applicable provided that surfactants comply with Criterion 3(a) and they are anaerobically degradable

(**) Derogation is only for Criterion 4(b). Biocides shall comply with Criterion 4(e).

(***) Including stabilisers and other auxiliary substances in the preparations.

(****) In concentrations lower than 1.0 % in the raw material as long as the total concentration in the final product is lower than 0.10 %.

Assessment and verification: the applicant shall demonstrate compliance with this criterion by providing a declaration on the non-classification of each ingoing substance into any of the hazard classes associated to the hazard statements referred to in the above list in accordance with Regulation (EC) No 1272/2008, as far as this can be determined, as a minimum, from the information meeting the requirements listed in Annex VII to Regulation (EC) No 1907/2006. This declaration shall be supported by summarised information on the relevant characteristics associated to the hazard statements referred to in the above list, to the level of detail specified in sections 10, 11 and 12 of Annex II to Regulation (EC) No 1907/2006 (Requirements for the Compilation of Safety Data Sheets).

Information on intrinsic properties of substances may be generated by means other than tests, for instance through the use of alternative methods such as *in vitro* methods, by quantitative structure activity models or by the use of grouping or read-across in accordance with Annex XI to Regulation (EC) No 1907/2006. The sharing of relevant data is strongly encouraged.

The information provided shall relate to the forms or physical states of the substance or mixtures as used in the final product.

For substances listed in Annexes IV and V to REACH, exempted from registration obligations under Article 2(7)(a) and (b) of Regulation (EC) No 1907/2006 REACH, a declaration to this effect will suffice to comply with the requirements set out above.

Proposal for criterion Xb – "Hazardous substances and mixtures"

According to Article 6(6) of Regulation (EC) No 66/2010, the EU Ecolabel may not be awarded to any product that contains substances meeting criteria for classification with the hazard statements specified in Table 10 in accordance with Regulation (EC) No 1272/2008 of the European Parliament and of the Council or Council Directive 67/548/E or substances referred to in Article 57 of Regulation (EC) No 1907/2006.

The hazard statements in Table 10 generally refer to substances. However, if information on substances cannot be obtained, the classification rules for mixtures apply.

Substances or mixtures which change their properties through processing and thus become no longer bioavailable, or undergo chemical modification in a way that removes the previously identified hazard are exempted from criterion X(b).

Table 10: Hazard statements

GHS Hazard Statement
H300 Fatal if swallowed
H301 Toxic if swallowed
H304 May be fatal if swallowed and enters airways
H310 Fatal in contact with skin
H311 Toxic in contact with skin
H330 Fatal if inhaled
H331 Toxic if inhaled
H340 May cause genetic defects
H341 Suspected of causing genetic defects
H350 May cause cancer
H350i May cause cancer by inhalation
H351 Suspected of causing cancer
H360F May damage fertility
H360D May damage the unborn child
H360FD May damage fertility. May damage the unborn child
H360Fd May damage fertility. Suspected of damaging the unborn child
H360Df May damage the unborn child. Suspected of damaging fertility
H361f Suspected of damaging fertility
H361d Suspected of damaging the unborn child
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
H362 May cause harm to breast fed children
H370 Causes damage to organs
H371 May cause damage to organs
H372 Causes damage to organs through prolonged or repeated exposure
H373 May cause damage to organs through prolonged or repeated exposure
H400 Very toxic to aquatic life
H410 Very toxic to aquatic life with long-lasting effects
H411 Toxic to aquatic life with long-lasting effects
H412 Harmful to aquatic life with long-lasting effects
H413 May cause long-lasting harmful effects to aquatic life
EUH059 Hazardous to the ozone layer
EUH029 Contact with water liberates toxic gas
EUH031 Contact with acids liberates toxic gas
EUH032 Contact with acids liberates very toxic gas
EUH070 Toxic by eye contact
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
H317: May cause allergic skin reaction

This criterion applies to all ingredients present in concentrations $\geq 0.01\%$, including preservatives, colouring agents and fragrances.

For industrial and institutional laundry detergents, the substances in Table 11 are exempted from the obligation in Article 6(6) of Regulation (EC) No 66/2010 following application of Article 6(7) of the same Regulation.

Table 11: Derogated substances - To be discussed in the 1st AHWG meeting

Derogated substance	H phrases
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Assessment and verification: the applicant shall demonstrate compliance with criterion X(b) for any ingoing substance or mixture present at concentrations greater than 0.010% in the product.

A declaration of compliance shall be provided by the applicant supported, where appropriate, by the declarations from producer(s) of the raw materials that none of these ingoing substances and/or mixtures meet the criteria for classification with one or more of hazard statements listed in Table 10 in the form(s) and physical state(s) they are present in the product.

The following technical information related to the form(s) and physical state(s) of the ingoing substances and/or mixtures as present in the product shall be provided to support the declaration of non-classification:

(i) For substances that have not been registered under Regulation (EC) No 1907/2006 and/or which do not yet have a harmonised CLP classification: Information meeting the requirements listed in Annex VII to that Regulation;

(ii) For substances that have been registered under Regulation (EC) No 1907/2006 and which do not meet the requirements for CLP classification: Information based on the REACH registration dossier confirming the non-classified status of the substance;

(iii) For substances that have a harmonised classification or are self-classified: safety data sheets where available. If these are not available or the substance is self-classified then information shall be provided relevant to the substances hazard classification according to Annex II to Regulation (EC) No 1907/2006;

(iv) In the case of mixtures: safety data sheets where available. If these are not available then calculation of the mixture classification shall be provided according to the rules under Regulation (EC) No 1272/2008 together with information relevant to the mixtures hazard classification according to Annex II to Regulation (EC) No 1907/2006.

For substances listed in Annexes IV and V to Regulation (EC) No 1907/2006, which are exempted from registration obligations under point (a) and (b) of Article 2(7) of that Regulation, a declaration to this effect by the applicant shall suffice to comply with criterion X(b).

A declaration on the presence of ingoing substances that fulfil the derogation conditions shall be provided by the applicant, supported, where appropriate, by declarations from the producer(s) of the raw materials. Where required for the derogation, the applicant shall confirm the concentrations of these ingoing substances in the final product.

Rationale and discussion

Background information on the criterion for hazardous substance is given in the Technical Annexe (Section 7.10).

Proposed derogation for peracetic acid

Peracetic acid (also known as peroxyacetic acid, or PAA, CAS 79-21-0) is organic peroxide that is used as a bleaching agent in certain detergents to improve cleaning results. In washing powders it is produced *in situ* through mixing TAED with “active bleaching agents” such as sodium percarbonate, or generated in a mixture hydrogen peroxide and acetic acid together. It is used as an antimicrobial in the medical industry, a property that some manufacturers highlight as a benefit in laundry and dishwashing applications.²² Due to its antimicrobial properties, PAA has been excluded from both LDs and DDs.

In laundry applications, peracetic acid is primarily used as a bleaching agent which is added into to remove stubborn stains by bleaching the nature substances in the fibres of the

²² The clean and clever way of bleaching - Peractive®, Clariant Detergents, 2013

textiles. As it is highly reactive, its bleaching and disinfecting properties are effective at much lower temperatures than hydrogen peroxide alone.²³ The review of alternative ecolabelling schemes presented in Section 2.5 of the Preliminary Report found that the Nordic Swan criteria for laundry detergents for professional use has an exemption for peracetic acid. It is exempted from the requirements for the classification of the product (H332, H312, H373, H371 and H304) on the basis that use of peracetic acid in laundry detergents allows for lower wash temperatures and thereby reduces energy consumption.

Stakeholders called for a derogation for peracetic acid classified as H400. The reasons given were that bleaching agents such as peracetic acid are necessary for the formulation of both domestic and I&I laundry detergents formulation. Stakeholders only gave limited reasoning for the addition of this derogation.

At this stage it has not been possible to gather enough evidence to support a derogation. In accordance with the EU Ecolabel Regulation (66/2010) derogations are only allowed when it is not technically feasible to substitute the substance or if the use of alternatives leads to a significantly increased environmental impact of the product.

Stakeholders are requested to provide further information in support of the proposed derogation for peracetic acid. A template for derogation, which needs to be filled in by the requesting party is included in the Technical Annexe (Section 7.16).

Also other derogations (included in the currently valid criteria) will be discussed during the 1st AHWG meeting.

Consultation questions	
1	Is a derogation for peracetic acid necessary?
2	Are there any viable alternatives for peracetic acid?
3	Do you have information which could substantiate keeping/removing the current derogations.

Current criterion 4c
<p>a) Substances listed in accordance with Article 59(1) of Regulation (EC) No 1907/2006</p> <p>No derogation from the exclusion in Article 6(6) shall be given concerning substances identified as substances of very high concern and included in the list foreseen in Article 59 of Regulation (EC) No 1907/2006 present in mixtures in concentrations higher than 0.010 %.</p> <p>Assessment and verification: the list of substances identified as substances of very high concern and included in the candidate list in accordance with Article 59 of Regulation (EC) No 1907/2006 can be found at: http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp</p> <p>Reference to the list shall be made on the date of application. The applicant shall provide the exact formulation of the product to the competent body. The applicant shall also provide a declaration of compliance with this criterion, together with related documentation, such as declarations of compliance signed by the material suppliers and copies of relevant Safety Data Sheets for substances or mixtures.</p>

²³ Nordic Ecolabelling of Laundry detergents for professional use, version 3.0, March 2014.

Proposal for criterion Xc – "Ingoing substances listed in accordance with Article 59(1) of Regulation (EC) No 1907/2006"

No derogation from the exclusion in Article 6(6) of Regulation (EC) No 66/2010 shall be given concerning ingoing substances identified as substances of very high concern and included in the list provided for in Article 59(1) of Regulation (EC) No 1907/2006²⁴, present in the product in concentrations higher than 0.010 % (weight by weight).

Assessment and verification: *reference to the list of substances identified as substances of very high concern shall be made on the date of application. The applicant shall provide the full formulation of the product to the competent body. The applicant shall also provide a declaration of compliance with criterion X(c), together with related documentation, such as declarations of compliance signed by the material suppliers and copies of relevant safety data sheets for substances or mixtures.*

Rationale and discussion

No content-wise changes are proposed. The text is proposed to be aligned with that of the corresponding criterion in the ROC criteria.

Current criterion 4d**(d) Specified limited ingoing substances – fragrances**

The product shall not contain perfumes containing nitro-musk or polycyclic musk

Any ingoing substance added to the product as a fragrance shall be manufactured and handled following the code of practice of the International Fragrance Association (IFRA). The code can be found on IFRA website: <http://www.ifraorg.org>. The recommendations of the IFRA Standards concerning prohibition, restricted use and specified purity criteria for materials shall be followed by the manufacturer.

Fragrance substances subject to the declaration requirement provided for in Regulation (EC) No 648/2004 of the European Parliament and of the Council (1) on detergents (Annex VII) and which are not already excluded by criterion 4(b) shall not be present in quantities $\geq 0.010\%$ (≥ 100 ppm) per substance in the final product.

Assessment and verification: the applicant shall provide a signed declaration of compliance indicating the amount of fragrances in the product. The applicant shall also provide a declaration from the fragrance manufacturer specifying the content of each of the substances in the fragrances which are listed in Annex III, Part I to Council Directive 76/768/EEC⁽¹⁾.

²⁴

http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp

Proposal for criterion 4d – "Fragrances"

Any [ingoing substance or mixture](#) added to the product as a fragrance shall be manufactured and handled following the code of practice of the International Fragrance Association (IFRA). The code can be found on the IFRA website: <http://www.ifraorg.org>. The recommendations of the IFRA Standards concerning prohibition, restricted use and specified purity criteria for materials shall be followed by the manufacturer.

Assessment and verification: the applicant shall provide a signed declaration of compliance, supported by a declaration of the fragrance manufacturer, as appropriate.

Proposed changes

Background information on the criterion for fragrances is given in the Technical Annex (Section 7.10.3).

No content-wise change is proposed to this criterion. Exclusion of specific fragrances:

- Nitro-musks and polycyclic musks (currently in this criterion)
- Hydroxyisohexyl 3-cyclohexene carboxaldehyde (HICC) (new exclusion),
- Atranol and Chloroatranol (new exclusion)
- Fragrance substances subject to the declaration requirement provided for in Regulation (EC) No 648/2004 of the European Parliament and of the Council on detergents (Annex VII) and which are not already excluded by criterion X(b) in quantities $\geq 0,010\%$ (≥ 100 ppm) per substance (currently in this criterion).

was included in sub-criterion (a) Specified excluded ingoing substances and mixtures.

Furthermore, the reference to the Directive 76/768/EEC (Cosmetics Directive) was changed for the reference to Regulation (EC) No 1223/2009 (Cosmetic Regulation).

Current criterion 4e

Biocides

(i) The product may only include biocides in order to preserve the product, and in the appropriate dosage for this purpose alone. This does not refer to surfactants, which may also have biocidal properties

Assessment and verification: the applicant shall provide copies of the material safety data sheets of any biocides added, together with information on their exact concentration in the product. The manufacturer or supplier of the biocides shall provide information on the dosage necessary to preserve the product.

(ii) It is prohibited to claim or suggest on the packaging or by any other communication that the product has an antimicrobial or disinfecting effect.

Assessment and verification: the applicant shall provide the texts and layouts used on each type of packaging and/or an example of each different type of packaging to the competent body.

(iii) The product may contain biocides provided that they are not bioaccumulating. A biocide is not considered bioaccumulating if $BCF < 100$ or $\log K_{ow} < 3,0$. If both BCF and $\log K_{ow}$ values are available, the highest measured BCF value shall be used.

Assessment and verification: the applicant shall provide copies of the material safety data sheets of any biocide added, together with information on their BCF and/or $\log K_{ow}$ values.

Proposal for criterion X(e) – "Preservatives"

(e) Preservatives

(i) The product may contain preservatives provided that they are not bioaccumulating. A preservative is not considered bioaccumulating if $BCF < 100$ or $\log P_{ow} < 3,0$. If both BCF and $\log K_{ow}$ values are available, the highest measured BCF value shall be used.

(ii) [Preservatives in the product shall not release or degrade to substances that are classified in accordance with the requirements of criterion x\(b\) Hazardous substances and mixtures.](#)

(iii) It is prohibited to claim or suggest on the packaging or by any other communication that the

product has an antimicrobial action.

Assessment and verification: the applicant shall provide a signed declaration of compliance, together with copies of the safety data sheets of any preservative added, and information on its BCF and/or log K_{ow} values. The applicant shall provide also artwork of the packaging.

Proposed changes

Biocides are used in detergent products for preservation purposes. They prevent the product from spoiling during storage by preventing the growth of microorganisms. However, the use of biocides in detergent products is a cause for concern; they are highly toxic to aquatic organisms and can also produce hypersensitivity and allergies (for background information see the Technical Annexe (Section 7.10.5)).

In the current criteria the following changes are proposed:

- The name of sub-criterion is proposed to be changed to 'Preservatives'.
- The statement "Product may only include biocides in order to preserve the product, and in the appropriate dosage for this purpose alone. This does not refer to surfactants, which may also have biocidal properties" is proposed to be removed as CBs mentioned in the ROC criteria development process that they cannot verify the compliance with this requirement and it should be removed.

Consultation questions

1	Do you agree with the changes proposed to requirement on preservatives?
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Proposal for criterion X(f) – Colorants **NEW REQUIREMENT**

Colorants in the product must not be bioaccumulating. A colorant is considered not bioaccumulating if $BCF < 100$ or $\log P_{ow} < 3.0$. If both BCF and log K_{ow} values are available, the highest measured BCF value shall be used. In the case of colouring agents approved for use in food, it is not necessary to submit documentation of bioaccumulation potential.

Assessment and verification: the applicant shall provide copies of the safety data sheets of any colorant added together with information on its BCF and/or log K_{ow} value, or documentation to ensure that the colouring agent is approved for use in food.

Rationale and discussion

The inclusion of this criterion is proposed in order to harmonise the different criteria sets.

For more information on colorants see the Technical Annexe (Section 7.10.6).

Current criterion 4f

(f) Enzymes

Enzymes must be in liquid form or dust-free granulate. Enzymes must be free from micro-organism remnants from manufacture.

Assessment and verification: the applicant shall provide copies of the material safety data sheets of any enzyme added, together with the documentation to ensure that the enzyme is free from micro-organism remnants.

Proposal for criterion X(g) – (Enzymes)

No changes are proposed.

Proposal for criterion X(h) – Phosphorus content NEW REQUIREMENT

The total content of phosphorus compounds in the product is limited to

Soiling	Light	Medium	Heavy
Pg/kg laundry (dry weight)	0.5	1	1.5

Assessment and verification: the applicant should provide

a) a signed declaration of compliance supported by declarations from manufacturers of mixtures, as appropriate, confirming that the listed substances and/or mixtures have not been included in the product.

b) written statements on compliance, including:

- information on the complexing agents in the product (detail information of the type of phosphonates added as ingredients);
- information for the biodegradability of the phosphonates. A spreadsheet for use in calculating aNBO values is available on the EU Ecolabel website.

For aNBO values reference should be done to the DID List. For phosphonates which are not included in the most updated DID list, the relevant information from literature or other sources, or appropriate test results, showing that they are aerobically biodegradable shall be provided as described in Appendix (to be added).

c) written statements on compliance, including:

- information on the complexing agents in the product (detail information of the type of phosphorus-content substances added as ingredients);
- information on the recommended dose for different levels of soiling or water hardness (when applicable);
- calculation of the product's total P-content

Rationale and discussion

The current evidence confirms that eutrophication caused by the use of phosphorus content compounds and in particular phosphates is still a subject of high relevance. Further information is found in the Technical Annexe (Section 7.10.1.1).

Although the Detergent Regulation regards the use of phosphates and other phosphorus compounds in consumer laundry and dishwasher detergents, it does not affect industrial and institutional detergents, since technically and economically feasible alternatives seem not to be yet available throughout the EU. However, it has been decided to go, in line with other Ecolabel schemes, a step further with the ban of phosphates and restrictions in the use of phosphorus compounds in industrial and institutional laundry detergents.

Information reported in the Preliminary Report for the current EU Ecolabel criteria for laundry detergents (consumer and industrial and institutional) indicates that a ban on phosphates would significantly limit the number of products that can comply with the phosphorus criterion. It is difficult to give a precise estimation, but it could be that about 50-70% of the laundry products contained phosphate in 2007 and they were assessed to be the best performing products for the industrial and institutional laundry market. Nevertheless, there is evidence of alternatives are on the market, often based on phosphonates or phosphonic acid or even phosphorus-free, although they can be less effective than phosphate-based detergents.

Regarding the limitations in other schemes, the Nordic Swan labelling and the Good Environmental Choice in New Zealand schemes have continued to allow low levels of phosphates within products while the Good Environmental Choice Australia scheme bans the use of phosphates. The choice of allowing the use of phosphate is justified by the fact that industrial and institutional laundry facilities are not likely to be located in areas where there would be a reliance on septic tank systems and a greater level of cleaning performance is expected. Thus, these schemes do not consider it is appropriate to outright ban phosphates for industrial and institutional laundry detergents but they have very low limits for quantity of phosphorus allowed and they also limit the quantity of phosphonates and phosphonic acid. In the case of the Nordic labelling, the maximum quantity of phosphonates and phosphonic acid depends on the intended temperature to be used and in the case of the New Zealand scheme the total amount of phosphonates that are not readily biodegradable is also restricted.

The revision and comparison among the ecolabel schemes demonstrate that stricter requirements can be considered without creating marketing restrictions. In line with other EU Ecolabel schemes, the revised EU Ecolabel criterion proposes a maximum phosphorus-content, a ban for phosphates and a limit on phosphonate compounds that are not biodegradable.

Consultation questions	
1	Can phosphates be substituted from IILDs without increasing the chemical loading or sacrificing cleaning performance?
2	Do you agree with the proposed limits for phosphorous compounds?
3	Could the limits be stricter?

2.8.7 Criterion 5: Packaging requirements

Current criterion 5

a) Weight/utility ratio (WUR)

The weight/utility ratio (WUR) of the product shall not exceed the following values:

Product type/water hardness	WUR (g/kg laundry)		
	Soft	Medium	Hard
Powders	1.5	2.0	2.5
Liquids	2.0	2.5	3.0

WUR shall be calculated only for primary packaging and a calculation shall be made for every product within a multi-component system (including caps, stoppers and hand pumps/spraying devices) using the formula provided in annexe

Exceptions:

- Plastic/paper/cardboard packaging containing more than 80 % recycled materials or more than 80 % plastic from renewable origin is exempted from this requirement.

Packaging is regarded as recycled if the raw material used to make the packaging has been collected from packaging manufactures at the distribution stage or at the consumer stage. Where the raw material is industrial waste from the material manufacturer's own production process, then the materials will not be regarded as recycled.

Assessment and verification: the applicant shall provide the calculation of the WUR for every product. A spreadsheet for this calculation is available on the EU Ecolabel website. The applicant shall provide a completed and signed declaration for the content of recycled or material from renewable origin in the packaging. For approval of refill packaging, the applicant and/or retailer shall document that the refills will be/are available for purchase on the market.

b) Plastic packaging

Only phthalates that at the time of application have been risk assessed and have not been classified according to criterion 4(b) may be used in the plastic packaging.

In order to allow for identification of different parts of the packaging for recycling, plastic parts in the primary packaging must be marked in accordance with DIN 6120, Part 2 or the equivalent. Caps and pumps are exempted from this requirement.

Assessment and verification: the applicant shall provide completed and signed declaration of compliance

Proposed criterion 5

a) Weight/utility ratio (WUR)

The weight/utility ratio (WUR) of the product shall be calculated for the primary packaging only and shall not exceed the following values for the reference dosage:

Water hardness Product type	Soft	Medium	Hard
	<1,5 mmol CaCO ₃ /l	1.5 – 2,5 mmol CaCO ₃ /l	> 2,5 mmol CaCO ₃ /l
Powders	1.5	2.0	2.5
Liquids	2.0	2.5	3.0

Are exempted from this requirement:

- Plastic/paper/cardboard packaging containing more than 80 % recycled materials,
- Paper/cardboard packaging that comes 80% from certified sustainable sources,

- Plastic packaging containing more than 80 % plastic from sustainable sources.

Assessment and verification: the applicant shall provide the calculation of the WUR of the product. A spreadsheet for this calculation is available on the EU Ecolabel website. If the product is sold in different packaging (i.e. with different volumes), the calculation shall be submitted for each packaging size for which the EU Ecolabel shall be awarded.

The applicant shall provide a completed and signed declaration for the content of recycled material in the packaging.

- For paper and cardboard, packaging is regarded as recycled if the raw material used to make the packaging has been collected from packaging manufacturers at the distribution stage or at the consumer stage. Where the raw material is industrial waste from the material manufacturer's own production process, then the material will not be regarded as recycled.

- For plastic, packaging is regarded as recycled if the raw material used to make the packaging comes from industrial waste or has been collected from packaging manufacturer at the distribution or at the consumer stage.

The applicant shall provide a completed and signed declaration for the content of sustainably sourced material in the packaging. For paper and cardboard, the applicant shall provide TBD. For plastic, the applicant shall provide TBD.

The WUR is calculated as follows:

$$WUR = \sum ((W_i + U_i) / (D_i * R_i))$$

Where:

W_i : weight (g) of the primary packaging (i),

U_i : weight (g) of non-recycled and non-sustainably sourced packaging in the primary packaging (i). $U_i = W_i$ unless the applicant can document otherwise,

D_i : number of reference doses contained in the primary packaging (i),

R_i : number of times that the primary packaging (i) can be refilled and used for the same purpose. $R_i = 1$ (packaging is not reused for the same purpose) unless the applicant can document a higher number.

b) Design for recycling

Plastic packaging shall be designed to facilitate effective recycling by avoiding potential contaminants and incompatible materials that are known to impede separation or reprocessing or to reduce the quality of recyclate. The label or sleeve, closure and, where applicable, barrier coatings shall not comprise, either singularly or in combination the materials and components listed in Table 12. Pumps are exempted from this requirement.

Table 12: Materials and components excluded from packaging elements

Packaging element	Excluded materials and components ²⁵
Label or sleeve	<ul style="list-style-type: none"> - PS label or sleeve in combination material used with a PET, PP or HDPE bottle - PVC label or sleeve in combination with a PET, PP or HDPE bottle - PETG label or sleeve in combination with a PET bottle - Sleeves made of different polymer than the bottle - Labels or sleeves that are metallised or are welded to a packaging body (in mould labelling)
Closure	<ul style="list-style-type: none"> - PS closure in combination a with a PET, HDPE or PP bottle - PVC closure in combination with a PET, PP or HDPE bottle - PETG closures and/or closure material with density of above 1 g/cm³ in combination with a PET bottle - Closures made of metal, glass, EVA - Closures made of silicone. Exempted are silicone closures with a density < 1 g/cm³ in combination with a PET bottle and silicone closures with a

²⁵ EVA – Ethylene Vinyl Acetate, EVOH – Ethylene vinyl alcohol, HDPE – High-density polyethylene, PET – Polyethylene terephthalate, PETG – Polyethylene terephthalate glycol-modified, PP – Polypropylene, PS – Polystyrene, PVC – Polyvinylchloride

	density > 1g/cm ³ in combination with PEHD or PP bottle - Metallic foils or seals which remain fixed to the bottle or its closure after the product has been opened
Barrier coatings	Polyamide, EVOH, functional polyolefins, metallised and light blocking barriers

Assessment and verification: The applicant shall submit a signed declaration of compliance specifying the material composition of the packaging including the container, label or sleeve, adhesives, closure and barrier coating, and a sample of primary packaging.

Rationale and discussion

From a life cycle perspective, packaging is not the most important environmental impact for industrial and institutional laundry detergents. If the packaging is comparable to that of consumer laundry detergents, it can represent up to 37% of impact contribution for agricultural land occupation when non-recycled material is used in the packaging (Section 4.4 - Preliminary Report), for example. It is therefore proposed that a criterion on packaging is kept present in the EU Ecolabels for all laundry detergents.

Further information on the wording of the proposed criterion and background information on packaging can be found in the Technical Annexe (Section 7.11).

a) Weight/Utility Ratio (WUR)

No changes are proposed to the WUR values as little feedback was received on this issue. It is proposed to consider the percentage of recycled and sustainably sourced materials when calculating WUR, in order to promote the use of these types of materials.

Further information on this aspect can be found in the Technical Annexe (Sections 7.11.3.1 and 7.11.3.2).

c) Design for recycling

In line with the EU Ecolabel on Rinse-off cosmetics, it is proposed to remove the requirement on the labelling of plastics parts but instead to promote the recyclability of packaging by avoiding combinations of incompatible materials and potential contaminants.

Further information on this aspect can be found in the Technical Annexe (Section 7.11.3.4).

Consultation questions	
1	Packaging is not one of the top 5 KPIs for I&I laundry detergents, should a criterion related to it be kept?
2	Are the WUR limits appropriate?
3	Is the design for recycling requirement suitable for this product group?

2.8.8 Criterion 6: Fitness for use

Current criterion 6

The primary laundering effects of the detergent such as dirt removal and stain removal capacity must be documented by the producer/applicant with the aid of artificially soiled test clothes which are washed in the process.

The test may be conducted by an external or internal laboratory fulfilling the requirements in Appendix II(a). The test must be conducted with the recommended dosage and at the corresponding water hardness and the degree of soiling at the lowest recommended wash temperature. The measurements must be performed on unlaundered and laundered test clothes. Evaluation of the test results shall be made by the laboratory and it shall be clearly stated in the report.

The measurements of secondary effects such as bleaching effect, bleaching/damage factor, ash content, greying and fluidity increase can for instance be made with multi wash test clothes and analysed according to standard ISO 4312.

Examples of what may be used as wash test clothes included the following:

- WFK-PCMS-55 for industrial laundering processes, consisting of 13 different small dirt patches (WFK-Cleaning Technology Research Institute, Germany)
- EMPA 102, consisting of 15 different fresh spots (Swiss EMPA-Test materials)
- wash clothes of DTI (Danish Technology Institute) for industrial washing processes or equivalent

As an alternative to the above mentioned laboratory test, a user test may be used to document efficiency. The user test should then meet the requirements stated in Appendix II(b).

For both laboratory test and user test the following apply:

The test product must be tested against a reference product. The reference product may be a well-established product on the market or — in the case of a user test — the product normally used by the user. The test product must show efficiency equal to or better than the reference product.

(From Appendix II)

a) Laboratory test

The analysis laboratory must meet the general requirements pursuant to standard EN ISO 17025 or be an officially GLP-approved analysis laboratory.

The applicant's analysis laboratory/measurement may be approved to conduct analyses and measurements if:

- the authorities monitor the sampling and analysis process, or
- the manufacturer has a quality system incorporating testing and analyses and which is certified in accordance with ISO 9001, or
- the manufacturer can show that there is conformity between a first-time test conducted as a parallel test between an impartial test institution and the manufacturer's own laboratory and that the manufacturer takes samples in accordance with a prescribed sampling plan.

The manufacturer's test laboratory can be approved to conduct testing to document effectiveness if the following additional requirements are met.

- It must be possible for ecolabelling organisations to monitor the performance of testing
- The ecolabelling organisation must have access to all data on the product
- The samples must be made anonymous for the test laboratory
- Performance of the effectiveness test must be described in the quality control system.

b) User test

1. Responses must be obtained from at least five test centres representing a selection of

customers

2. The procedure and dosage must conform to the manufacturer's recommendations.
3. The test period must continue for at least four weeks.
4. Every test centre must assess the serviceability of the product or multi-component system, dosability, compressibility, rinsing and solubility.
5. Every test centre must assess the effectiveness of the product or multi-component system by answering questions relating to the following aspects (or similar formulations):
 - a) ability to launder lightly, moderately or heavily soiled articles to be washed;
 - b) an assessment of primary laundering effects such as dirt removal, stain removal capacity and bleaching effect must be rated;
 - c) assessment of secondary laundering effects such as greying of white washing and colour-fastness and staining of coloured washing;
 - d) assessment of the effect of the rinsing agent on drying, ironing or mangling of the articles to be washed;
 - e) how satisfied the test subject is with customer visiting arrangements
6. The response must be rated on a scale comprising at least three levels, for example, 'insufficiently effective', 'sufficiently effective' or 'very effective'. With regard to how satisfied the test centre is with visit reporting arrangements, the categories must be 'not satisfied', 'satisfied' and 'very satisfied'.
7. At least five test centres must submit responses. At least 80 % must rate the product as sufficiently effective or very effective on all points (see point 4 and be satisfied or very satisfied with customer visiting arrangements.
8. All raw data from the test must be specified
9. The test procedure must be described in detail.

Assessment and verification: the applicant shall provide a test report. The reference product may be a well-established product on the market or – in the case of the use test – the product normally used by the user. The test product fulfils the minimum requirements defined in the chosen test, also see Appendix II(a) and II(b) respectively.

Proposed criterion 6 – Fitness for use

Tests shall be carried out to ensure that the product has a satisfactory wash performance at the lowest recommended dosage for the water hardness and the degree of soiling. Test shall be performed according to laboratory tests (Appendix - to be added) or alternatively, user test (Appendix - to be added) may be used to document efficiency.

The laboratory test shall be performed by an external laboratory complying with the Appendix (to be added). The tests shall be carried out at the water temperature stated in the Appendix to be added) or at the lowest temperature at which the product claims to be effective.

The reference product is tested at the lowest recommended dosage that is stated on the packaging for the degree of soiling and water hardness. If no dosage instructions are provided, the same dosage is used as for the test product.

Assessment and verification

The applicant shall provide documentation confirming that the product has been tested under the laboratory tests conditions in accordance with Appendix (to be added). Information should be provided on:

- (a) Type of spots that are representative for the kind of soiled expected in the areas where the products will be marketed.
- (b) Information on the recommended dosage at the corresponding water hardness and the lowest recommended wash temperature at which the product claims to be effective.
- (c) The product's ability to remove soiling from the surfaces or materials and the effectiveness of other products the detergent shall be used with (eg. Rinse-aids) .

(d) Information about the reference product against which the test product has been tested: market leadership, lowest commended dosage or dosage used (if no information is provided) and temperature, date of purchase and date of testing.

(e) Documentation confirming the compliance within the laboratory requirements included in Appendix (to be added).

If a user test is performed, the applicant should provide information on:

(a) the way the test users were selected, all raw data from the tests and the test procedure.

(b) all reply forms received from the test users and the overall result on the wash performance of the user test specified in a table/a form. The response must be rated in accordance with Appendix (to be added).

(c) information on how satisfied the test centre is with visit reporting arrangements and the categories rated.

Rationale and discussion

Satisfactory fitness for use of industrial and institutional laundry detergents ensures that the maximum performance of the product is achieved while getting a minimum environmental impact. Further information about the most important parameters that influence the washing performance is included in Technical Annexe (Section 7.12).

For the time being, there are neither EU Ecolabel protocol nor IKW recommendations for the quality assessment of the cleaning performance of industrial and institutional laundry detergents, therefore the laboratory tests or the user tests are proposed to check this criterion.

The fitness for use test for industrial and institutional laundry detergents is difficult to check due to the wide range of washing parameters in Europe (water hardness, types of soil, customer habits, and different types of machines) and the different purpose of these washings. The range of conditions under which industrial and institutional laundry detergents may be employed confounds the inclusion of a number of parameters of potential interest. On the whole however, it is incumbent on the applicant to specify the working ranges of their product and provide substantiating evidence for whatever claims are made.

2.8.9 Criterion 7: Automatic dosing systems

Current criterion 7

Multi-component systems shall be offered together with an automatic and controlled dosing system.

In order to ensure correct dosage in the automatic dosing systems, customer visits must be incorporated as a normal routine for manufacturers/suppliers. These customer visits are performed at all premises at least once a year during the license period; they must include calibration of the dosage equipment. Also, a third party can perform customer visits.

Assessment and verification: the applicant shall provide a written description of responsibility for, frequency and content of customer visits.

Proposed criterion 7

Multi-component systems shall be offered together with an automatic and controlled dosing system.

In order to ensure correct dosage in the automatic dosing systems, customer visits must be incorporated as a normal routine for manufacturers/suppliers. These customer visits are performed at all premises at least once a year during the license period; they must include calibration of the dosage equipment. A third party can perform customer visits.

In exceptional cases, customer visits may be dispensed with if the distance and method of delivery makes the visit impracticable.

Assessment and verification: the applicant shall provide a written description of responsibility for, frequency and content of customer visits.

Rationale and discussion

No changes are proposed to this criterion, except the addition of a clause for cases when the requirement for annual visits would be too restrictive.

Industrial and institutional multi-component systems are difficult to dose as there is more than one product in the system. The use of a well maintained automatically and on-site calibrated dosing system limits the risk of incorrect dosing and, thus, the risk of extra environmental impacts.

Consultation questions

1	Is the criterion on multi-component products relevant to the product group?
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2.8.10 Criterion 8: User information – Information appearing on the EU Ecolabel

Current criterion 8

a) Information on the packaging/information sheet

The following washing recommendations (or equivalent) must appear on the packaging, and/or on a product information sheet. The washing recommendations must include examples of the classification of the textiles soiling degree and shall include the following text:

- Wash at the lowest recommended temperature
- Always wash with the highest possible load, the textiles allow
- Dose according to the dosing instructions and use the dosage according to water hardness and degree of soiling
- Using this EU Ecolabelled product according to the dosage instructions will contribute to the reduction of water pollution, waste production and energy consumption.

b) Claims on the packaging

In general, claims on the packaging shall be documented through performance testing (e.g. claims of efficiency at low temperatures, claims of removal of certain stain types, claims of benefits for certain types or colours of textile or other claims of specific properties/benefits of the product):

- e.g. if a product claims efficiency at 20 °C, the performance test must be performed at ≤ 20 °C (and correspondingly for other temperature claims below 40 °C).
- e.g. if a product claims to be efficient on certain stain types, this must be documented with performance test.

c) Information appearing on the EU Ecolabel

The logo should be visible and legible. The use of the EU Ecolabel logo is protected in primary EU law. The EU Ecolabel registration/licence number must appear on the product, it must be legible and clearly visible.

The optional label with text box shall contain the following text:

- Reduced impact on aquatic ecosystems,
- Limited hazardous substances,
- Performance tested.

The guidelines for the use of the optional label with text box can be found in the 'Guidelines for use of the Ecolabel logo' on the website:
http://ec.europa.eu/environment/ecolabel/documents/logo_guidelines.pdf

Assessment and verification (a-c): the applicant shall provide a sample of the product label and/or product sheet, together with a declaration of compliance with this criterion. Product claims shall be documented through appropriate test reports.

Proposed criterion 8 – "User information"

The detergent shall be accompanied by instructions for proper use so as to maximise product performance and minimise waste. [These instructions shall be legible or include graphical representation or icons and include information on:](#)

a) dosing instructions

[The primary packaging or product information sheet shall include information on the recommended dosage in g or ml for 1kg of laundry for various levels of water hardness and various levels of soiling. The packaging or product information sheet shall indicate the most prevalent water hardness in the](#)

area where the product is intended to be marketed or where this information can be found. The applicant shall take suitable steps to help consumers respect the recommended dosage, making available a dosage device and/or indicating the recommended dosage in a well-known metric.

b) resource saving measures

The applicant shall recommend washing at the lowest temperature the product claims effectiveness and washing with full loads.

c) packaging disposal information

The primary packaging or product information sheet shall include information on the reuse, recycling and/or correct disposal of packaging.

d) environmental information (voluntary)

The following text is recommended to appear on the primary packaging or product information sheet but its use is voluntary:

"All detergents have an effect on the environment. Always use the correct dose for maximum effectiveness, the lowest recommended temperature. This will minimize both energy and water consumption and reduce water pollution".

Assessment and verification: The applicant shall provide a sample of the product label or product information sheet

Proposed criterion 9 – "Information appearing on the EU Ecolabel"

The logo should be visible and legible. The use of the EU Ecolabel logo is protected in primary EU law. The EU Ecolabel registration/licence number must appear on the product, it must be legible and clearly visible.

The optional label with text box shall contain the following text:

- reduced impact on aquatic ecosystems,
- limited hazardous substances,
- performance tested.

Assessment and verification The applicant shall provide a sample of the product label.

Rationale and discussion

Information appearing on the packaging and/or information sheets provides useful information on how the user should use the product most effectively to achieve the best cleaning results whilst minimising the environmental impacts. Further information on the rationale why these statements should be included can be found in the Technical Annexe (Section 7.13 and 7.14).

It is proposed that the text should include information regarding:

- the dosage depending on the level of soiling and water hardness,
- the water hardness of the place to be used
- the lowest temperature at which the detergent is effective
- instructions to reduce the environmental impacts during the end-of-life of the packaging
- and environmental impacts preventing from the perception that an EU Ecolabel detergent causes no environmental impact.

The text included in the EU Ecolabel box is proposed in line with other EU Ecolabel criteria for detergents under revision. The three statements highlight the most important aspects of an EU Ecolabel detergent.

Information on the label is useful for reinforcing messages that endorse the user's or consumer's choice of this product over non-EU Ecolabel alternatives. The background and rationale behind the selection of these statements are included in the Technical Annexe (Section 7.14).

Consultation questions	
1	Is the change to the dosage instruction wording acceptable?
2	Is a statement on overdosing required as part of the consumer information criterion?
3	Should information on use of renewable energy be included?
4	Should recycling labels be included on laundry detergent packaging?
5	Is it appropriate to have the information appearing on the EU Ecolabel as a separate criterion?

2.8.11 Criterion NEW - Sustainable sourcing of palm oil, palm kernel oil and their derivatives

Proposed addition

Ingredients used in the product which are derived from palm oil or palm kernel oil must be sourced from plantations that meet the criteria for sustainable management that have been developed by multi-stakeholder organisations who have a broad based membership including NGOs, industry and government.

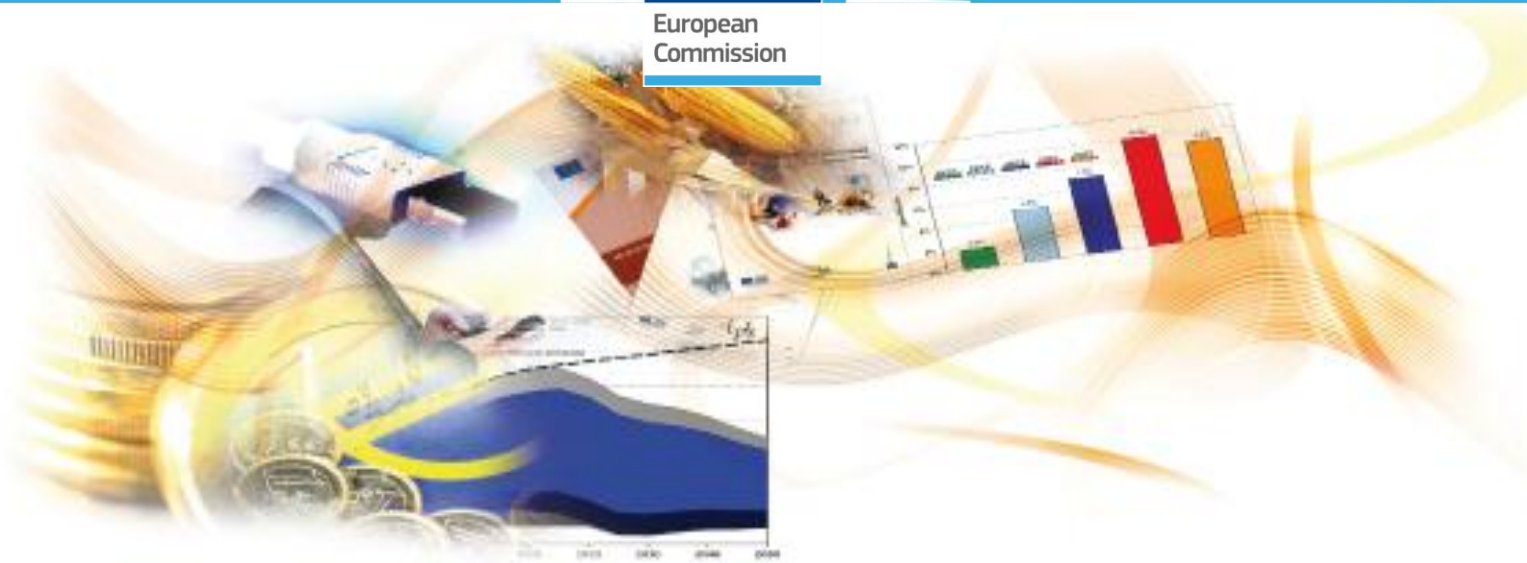
Assessment and verification: the applicant shall provide third-party certifications that the palm oil used in the manufacturing of the product originates from sustainable managed plantations. Certifications accepted shall include RSPO (by identified preserved, segregates or mass balance) or any equivalent scheme based on multi-stakeholder sustainable management criteria. For chemical derivatives of palm oil it is acceptable to demonstrate sustainability for these through book and claim systems such as GreenPalm or equivalent.

Rationale and discussion

Further information on this criterion can be found in the Technical Annexe (Section 7.15).



European
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J R C T E C H N I C A L R E P O R T S

3 DETERGENTS FOR DISHWASHERS

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3.1 Introduction

The following Technical Report presents a proposal of revised EU Ecolabel criteria for the product group of "detergents for dishwashers" (DD). The study has been carried out by the Joint Research Centre's Institute for Prospective Technological Studies (JRC-IPTS) with technical support from Oakdene Hollins and PRé Consultants. The work is being developed for the European Commission's Directorate General for the Environment.

The recommendations for the revision of the current criteria are based on technical analysis, including a Life Cycle Assessment (LCA) assessing the environmental impacts of products covered by the scope of the product group and other evidences, and input received from stakeholders.

This document is complemented by the Preliminary Report²⁶ on the revision of the European Ecolabel criteria for Detergents for Dishwashers and a Technical Annexe. The Preliminary Report covers in detail areas such as: scope and legislative analysis (Task 1), market analysis (Task 2), technical analysis (Task 3) and improvement potential (Task 4). The Technical Annexe is common to all detergent product groups as they share common issues and the revisions of their EU Ecolabel criteria are being done at the same time in order to facilitate harmonisation between criteria, where appropriate.

In all, there are six sets of EU Ecolabel criteria in the detergent product groups. These are:

- laundry detergents (LD),
- industrial and institutional laundry detergents (IILD),
- detergents for dishwashers (DD),
- industrial and institutional automatic dishwasher detergents (IIDDD),
- hand dishwashing detergents (HDD),
- all-purpose cleaners and sanitary cleaners (APC).

The present document is specific to the set of criteria related to the EU Ecolabel for detergents for dishwashers. Its main purpose is to summarise the proposed criteria changes as well as provide a brief overview of background information related to each criterion and the rationale behind the proposal. Where these are common for different EU Ecolabel product groups and/or are due to harmonisation efforts, reference is made to a section of the Technical Annexe. Both documents, as well as the Preliminary Report, should be consulted to gain a full understanding of this revision process.

It should be noted that the EU Ecolabel criteria for industrial and institutional automatic dishwasher detergents (IIDDD) are being revised in parallel. Due to the similarities in criteria, chemical constituents of the products involved and the overlap of stakeholders, a common Preliminary Report has been written. However, a separate Technical Report has been produced for each EU Ecolabel under revision. Nevertheless, as harmonisation of criteria across product groups is within the scope of this work, the rationale and commentary of the Technical Reports frequently compares and contrasts current criteria corresponding to the other detergent products being revised.

A revision of EU Ecolabel criteria must ensure that, based on impacts of the products covered by the EU Ecolabel for "detergents for dishwashers" at all life-cycle stages:

- The existing criteria are still relevant and that appropriately challenging targets, thresholds or usage information are established based on the latest knowledge of market norms, user behaviours, life-cycle impacts and hazards.
- Any new candidates for criteria suggested by either the LCA or the stakeholder survey are adequately considered and evaluation criteria justified.
- Opportunities to rationalise criteria, i.e. remove, simplify and combine (within the group) or harmonise (between product groups), are examined and justified.

The main criteria changes proposed in this report are as follows:

- A change of the name of the EU Ecolabel to "consumer dishwasher detergents" as the current name does not accurately reflect the product groups covered and is not in line with

²⁶ <http://susproc.jrc.ec.europa.eu/detergents/stakeholders.html>

the definition provided in the 2012 Revision to the EU Detergents Regulation (EU/259/2012)²⁷.

- An update of several criteria with updates values and new values for categories of products that are not covered in the current criteria.

²⁷ Regulation (EU) No 259/2012 of the European Parliament and of the Council of 14 March 2012 amending Regulation (EC) No 648/2004 as regards the use of phosphates and other phosphorus compounds in consumer laundry detergents and consumer automatic dishwasher detergents Text with EEA relevance OJ L 94, 30.3.2012, p. 16–21

3.2 Preliminary report – summary and links to the revision and/or development of the eu ecolabel criteria

The Preliminary Report presents the research carried out, through stakeholder surveys, market analysis, legal review and an environmental performance investigation, on areas related to the product groups covered by the EU Ecolabel on detergents for dishwashers. The preliminary report is a document that provides the background information and underpins the new criteria proposal for two product groups: detergents for dishwashers and industrial and institutional automatic dishwasher detergents, due to their multiple overlaps.

The main findings of the Preliminary Report are:

-The *legal review* revealed that the Detergents Regulation will impact on the consumer automatic dishwasher detergents on the market. The revision limits the use of phosphates and phosphorus compounds and lays down requirements for dosage information. The revision of the EU Ecolabel criteria shall take into account these changes to the Detergents Regulation.

-The *market analysis* revealed that the dishwasher detergent market is primarily intra-EU trade, with five large manufacturers accounting for 65 % of the European market. Consumer dishwasher detergents are mainly sold in three forms (powder, liquid, tablets) of which the most popular is tablets and accounts for an estimated 83 % of the market share in Europe, based on sales.

- The *technical analysis* revealed that the key environmental impacts associated with the product group can be summarised as follows:
- The life cycle stage with the largest contribution to the environmental impact profile of dishwasher detergents is the use phase, particularly the energy needed to heat the water for the wash cycle. For some impact categories, the sourcing of raw materials is also important.
- Based on the normalisation assessment, the most significant impact categories for consumer dishwasher detergents in Europe are fossil depletion, climate change, human toxicity, particulate matter formation, and natural land transformation.
- The results of the LCA for a consumer dishwasher detergent, conducted as part of the technical analysis, are shown in Figure 6.

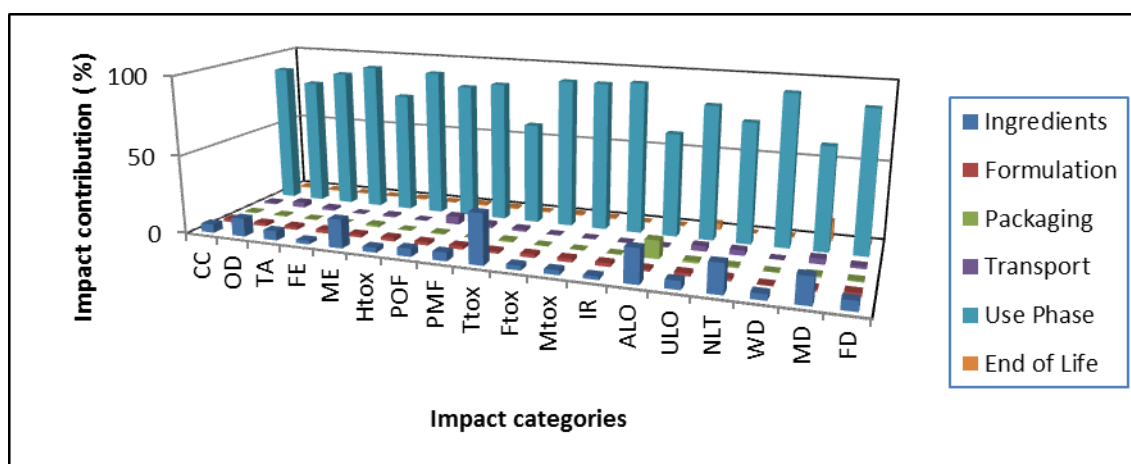


Figure 6: Impact contribution of different life cycle stages of a laundry detergent

These impacts are strongly correlated to each other via the energy use in the use phase (with the exception of natural land transformation). The use phase dominates the impact categories freshwater eutrophication, human toxicity, and marine ecotoxicity, whereas

freshwater ecotoxicity and natural land transformation are dominated by ingredients sourcing.

The key environmental performance indicators (KPIs), i.e. those variables that mainly drive the results for dishwasher detergents in Europe, based on the results of this study are:

- Amount of product used per application,
- Choice of and amount of surfactant (although there are trade-offs between impact categories),
- Wash temperature,
- Energy source used to heat the water,
- Emissions to water.

Apart from the LCA analysis, a revision of other scientific evidences, current national schemes and legislation have been performed. These sources of information pointed out the potential presence of hazardous substances in the product that can have environmental and health impacts, and these are addressed according to Articles 6.6 and 6.7 the Regulation EC/66/2010 on the Ecolabel Regulation²⁸.

This document shows the process and the evidences to draft the EU Ecolabel criteria that tackle the mentioned main environmental impacts identified through the LCA analysis and the non-LCA impacts identified by revising other sources. The EU Ecolabel criteria are developed to directly or indirectly address the identified LCA and non-LCA impacts (eg the choice and amount of surfactants is an environmental impact directly addressed through one or several EU Ecolabel criteria while the amount of detergent is indirectly addressed). The "energy source used to heat the water" is the only environmental impact that cannot be addressed through the EU Ecolabel as it is not directly linked to the products; even when consumers can choose the source of energy to heat the water or an electricity provider with a share of renewable energies, this is something out of the scope of what can be promoted through a product environmental label.

Moreover, even though waste generation was not among the top 5 KPIs named previously, it can still have an impact of up to 11% for some environmental aspects. This environmental impact score can even being higher in the case of window cleaners. Given large the prevalence of dishwasher detergents in everyday life and the fact that they all come with packaging, a relatively small impact can quickly add up; thus, this aspect is also considered in the EU Ecolabel. Table 14 shows the link between the hotspots identified as LCA and non-LCA impacts in the Preliminary Report and the revised or newly developed EU Ecolabel criteria.

Table 14: Link between the hotspots identified (LCA and non-LCA impacts) and the revised EU Ecolabel criteria

Hotspots	% of total impact ²⁹	Revised or new EU Ecolabel criteria	Comments in the related criteria
Energy sources to heat up the water	64-95 %	--	Out of the scope of this policy tool
Amount of product used per application	2-32 %	User information	It informs users about the amount of product to be used depending on the washing conditions
		Dosage requirement	This criterion limits the amount of product that manufacturers can recommend to users.
Formulation Choice of and	2-32 %	Biodegradability	It ensures that surfactants are degradable and will not persist in the environment

²⁸ Regulation (EC) No 66/2010 of the European Parliament and of the Council of November 25 2009 on the EU Ecolabel

²⁹ Information provided in chapter 5 of the Preliminary Report, although aggregated in a different way, available at: <http://susproc.jrc.ec.europa.eu/detergents/stakeholders.html>

Hotspots	% of total impact²⁹	Revised or new EU Ecolabel criteria	Comments in the related criteria
amount of surfactant		Restricted substances	It ensures that hazardous surfactants are not included in the bill of materials
		Phosphorus content	It ensures that limited and restricted types of phosphorus compounds are included as ingredients
		Sustainable Palm oil	It ensures that renewable palm oil surfactants do not cause unnecessary strain on the ecosystem.
Formulation Choice of and amount of other ingredients	2-32 %	Colorants	It ensures that colorants do not accumulate in the water
		Fragrances	It ensures that only a limited amount of ingredients with sensitizing properties is used
		Enzymes	It ensures that enzymes cannot be inhaled limiting health risks for users
		Preservatives	It ensures that no persistent or biocide preservatives are included as an ingredient
Emissions to water	2-32 %	Toxicity to aquatic organisms	It ensures that the sum of the ingredients is not toxic to the aquatic organisms
		Biodegradability	It ensures that ingredients are not persistent in the water
		Restricted substances	It ensures that hazardous substances do not reach the water (rivers, sea, oceans, etc)
		Colorants	It ensures that colorants do not accumulate, a limited use of ingredients with sensitizing properties or are not inhaled
		Fragrances	
		Enzymes	
Information appearing on the EU Ecolabel	It informs consumers that the product has a limited amount of hazardous substances while they are making purchase decisions		
Energy consumed to heat up the water	64-95 %	User Information	It provides information to the users on how to wash to get the most of the product damaging the least the environment
		Fitness for use	It ensures consumers that the product is fit to wash at lower temperature depending of the intended use
		Information appearing on the EU Ecolabel	It informs consumers that the product is fit for washing while they are making purchase decisions
Waste generation	0-11 %	Packaging	It ensures that limited amount of waste will be generated and that this waste can be recycled
		User Information	It reminds consumers to dispose of the packaging in a responsible manner
Water consumption	Not rated	User Information	The criterion encourages users to opt for wash loads. It provides information to the users on how to get the most out of the product while lowering the damage to the environment.
Hazardous substances	Not rated	Hazardous substances and mixtures	It limits the hazardous substances and mixtures that can be included in the product limiting environmental and risks for consumers.
		Ingoing substances listed in accordance with Article 59(1) of Regulation (EC) No 1907/2006	
		Information appearing on the EU Ecolabel	It informs consumers that the product has a limited amount of hazardous substances at purchasing

3.3 Summary of the feedback requested from stakeholders

CONSUMER AUTOMATIC DISHWASHER DETERGENTS		
CRITERION / SECTION	QUESTIONS FOR CONSULTATION	
Toxicity to aquatic life	1	Do you agree that the proposed CDV limits or should they be kept as they are in the current criteria?
Biodegradability of substances	1	Is the proposed approach to biodegradability suitable for consumer dishwasher detergents?
	2	What would be the appropriate limits for aNBO and anNBO? Could stakeholders please share with the project team data on the amount of aNBO and anNBO organic substances and mixtures in the product groups covered?
	1	Horizontal question – what should be the EU Ecolabel's approach to biodegradability?
Excluded or limited substances a)	1	Do you agree with the proposed approach? (Phosphorus content)
	2	Are exclusions required for other substances?
	3	Should the surfactant LAS be excluded?
Excluded or limited substances b)	1	Do you have information which could substances keeping/removing the current derogations?
Fitness for use	1	Are any other changes required for this criterion?
	2	Should IKW be the only test allowed for this product group?
	3	Stakeholders are invited to indicate a suitable reference detergent for the EN test method?
Packaging	1	Are the WUR limits appropriate?
	2	Is the design for recycling requirement suitable for this product group?
User information	1	Should a recommendation on the use of salt be included?
	2	Is a statement on overdosing required as part of the consumer information criterion?
	3	Should information on use of renewable energy be included?
	4	Is it appropriate to remove the requirement to report the type of enzyme?
	5	Should recycling labels be included on dishwasher detergent packaging?
Information appearing in the EU ecolabel	1	Are the proposed statements suitable?
	2	Do these statements translate well into other languages?

3.4 Criteria structure comparison table

STRUCTURE OF THE CRITERIA	
Current organisation of the EU Ecolabel criteria	Potential changes, modifications or amendments
<p>Criterion 1: Total chemicals Criterion 2: Excluded or limited substances or mixtures Criterion 3: Toxicity to aquatic organisms: Critical Dilution Volume. Criterion 4: Biodegradability of organics. Criterion 5: Washing performance Criterion 6: Packaging requirements Criterion 7: Consumer information Criterion 8: Information appearing on the EU Ecolabel</p>	<p>Criterion 1: Dosage requirement Criterion 2: Toxicity to aquatic organisms Criterion 3: Biodegradability Criterion 4: Sustainable sourcing of palm oil, etc. Criterion 5: Restricted substances Criterion 6: Packaging Criterion 7: Fitness for use Criterion 8: User information Criterion 9: Information appearing on the EU Ecolabel</p>
	<p>The proposed changes to the structure reflect harmonisation of criteria structure for all EU Ecolabel detergent products groups as well as the inclusion of an additional criterion is proposed to cover sustainable sourcing of some ingredients.</p>

3.5 Name and definition comparison table

NAME OF THE EU ECOLABEL	
Current name of the EU Ecolabel	Potential changes, modifications or amendments
Detergents for dishwasher	Consumer dishwasher detergents
	The proposed name is in line with the name used in the Detergents Regulation and provides more clarity on the fact that only consumer products are covered.
Definition of the product group	
The product group 'Detergents for Dishwashers' shall comprise detergents for dishwashers and products used as rinse aids, whether in powder, liquid or any other form, which are intended to be marketed and used exclusively in automatic domestic dishwashers and in automatic dishwashers for professional use, the size and usage of which is similar to that of domestic dishwashers.	The product group 'consumer dishwasher detergents' shall comprise detergents for dishwashers and products used as rinse aids, whether in powder, liquid or any other form , which are intended to be marketed and used exclusively in automatic domestic dishwashers and in automatic dishwashers for professional use, the size and usage of which is similar to that of domestic dishwashers.
	The main proposed changes include the change in the name of the product groups covered by the EU Ecolabel.

3.6 Comparison of existing and proposed criteria

CRITERIA							
Existing EU Ecolabel criteria	Potential changes, modifications or amendments						
Criterion 1: Total chemicals							
<p>Total chemicals (TC) are the recommended dosage in g/wash minus the water content.</p> <p>The amount of total chemicals shall not exceed the following amounts:</p> <p>(a) Single-functional dishwasher detergents: TC max = 20,0 g/wash</p> <p>(b) Multi-functional dishwasher detergents: TC max = 22,0 g/wash</p> <p>When calculating the CDV, aNBO and anNBO a dosage of rinse aid of 3 ml shall be used.</p> <p>Assessment and verification: Calculation of the TC of the product. The density (g/ml) shall be stated for liquid products.</p>	<p>Criterion 1: "Dosage requirements"</p> <p>The reference dosage shall not exceed the following amounts:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Product type</th> <th>Dosage</th> </tr> </thead> <tbody> <tr> <td>Single-function dishwasher detergent</td> <td>18,0 g/wash</td> </tr> <tr> <td>Multi-function dishwasher detergent</td> <td>20,0 g/wash</td> </tr> </tbody> </table> <p>Rinse aids are exempted from this requirement</p> <p>Assessment and verification: Full formulation of the product, label or artwork including dosage instructions. The density (g/ml) shall be stated for all products (either on the packaging or in a Safety Data Sheet).</p>	Product type	Dosage	Single-function dishwasher detergent	18,0 g/wash	Multi-function dishwasher detergent	20,0 g/wash
Product type	Dosage						
Single-function dishwasher detergent	18,0 g/wash						
Multi-function dishwasher detergent	20,0 g/wash						
	<p>The proposed changes focus on the following issues:</p> <p>a) The name of the criterion is changed to dosage requirements in line with other EU Ecolabel criterion for similar products. It considers the whole reference dosage and not only the dry content</p> <p>b) The strictness of the dosage is increased based on the collected data across Europe in this study and the evidences that lower dosage per wash are needed to achieve good washing performance</p> <p>c) Rinse aids are exempted from this requirement as it is usually automatically added by the dishwasher</p> <p>d) The assessment and verification has been updated requiring further evidence to ensure an easier verification process</p>						
Criterion 2: Excluded or limited substances							
<p>(a) Specified excluded ingredients</p> <p>The following ingredients must not be included in the product, neither as part of the formulation nor as part of any mixture included in the formulation:</p> <ul style="list-style-type: none"> — Phosphates — DTPA (Diethylene triamine pentaacetic acid) — Perborates 	<p>a) Specified excluded ingoing substances and mixtures</p> <p>The product shall not be formulated or manufactured using any of the following compounds:</p> <ul style="list-style-type: none"> (ix) Phosphates (x) Phosphonates that are not readily biodegradable 						

- Reactive chlorine compounds
- EDTA (ethylenediamine tetraacetate)
- Nitromusks and polycyclic musks

Assessment and verification: the applicant shall provide a completed and signed declaration of compliance

(b) Hazardous substances and mixtures

According to Article 6(6) of the Regulation (EC) No 66/2010 on the EU Ecolabel, the product or any part of it thereof shall not contain substances or mixtures meeting the criteria for classification with the hazard classes or categories in

- (xi) DTPA (diethylenetriaminepentaacetic acid)
- (xii) Perborates
- (xiii) Reactive chlorine compounds
- (xiv) EDTA (ethylenediaminetetraacetate)
- (xv) Nitro-musks and polycyclic musks
- (xvi) APEO (alkylphenol ethoxylates) and APD (alkylphenol derivatives)
- (xvii) Hydroxyisohexyl 3-cyclohexene carboxaldehyde (HICC)
- (xviii) Atranol and Chloroatranol
- (xix) Fragrance substances subject to the declaration requirement provided for in Regulation (EC) No 648/2004 of the European Parliament and of the Council on detergents (Annex VII) and which are not already excluded by criterion X(b) shall not be present in quantities $\geq 0,010\%$ (≥ 100 ppm) per substance.

Assessment and verification: the applicant shall provide:

- a signed declaration of compliance supported by declarations from manufacturers of mixtures, as appropriate, confirming that phosphates have not been included in the product.
- written statements on compliance (concerning phosphonates which are readily biodegradable), including:
 - information on the complexing agents in the product (detail information of the type of phosphonates added as ingredients);
 - information for the biodegradability of the phosphonates. A spreadsheet for use in calculating aNBO values is available on the EU Ecolabel website.

For aNBO values reference should be done to the DID List. For phosphonates which are not included in the most updated DID list, the relevant information from literature or other sources, or appropriate test results, showing that they are aerobically biodegradable shall be provided as described in Appendix³⁰ (to be added).

The applicant shall also provide a declaration from the fragrance manufacturer specifying the content of each of the substances in the fragrances which are listed in Annex III of the Regulation (EC) No 1223/2009.

(b) Hazardous substances and mixtures

According to Article 6(6) of Regulation (EC) No 66/2010, the EU Ecolabel may not be awarded to any product that contains substances meeting criteria for classification with

³⁰ The "Appendix" referred to in the criteria text is the Appendix found at the end of EU Ecolabel criteria and has not been formulated as of the writing of this report. It does not refer to the Appendixes found at the end of this Technical Report.

accordance with Regulation (EC) No 1272/2008 specified below nor shall it contain substances referred to in Article 57 of Regulation (EC) No 1907/2006. List of hazard statements:

GHS Hazard Statement	EU Risk Phrase
H300 Fatal if swallowed	R28
H301 Toxic if swallowed	R25
H304 May be fatal if swallowed and enters airways	R65
H310 Fatal in contact with skin	R27
H311 Toxic in contact with skin	R24
H330 Fatal if inhaled	R23/26
H331 Toxic if inhaled	R23
H340 May cause genetic defects	R46
H341 Suspected of causing genetic defects	R68
H350 May cause cancer	R45
H350i May cause cancer by inhalation	R49
H351 Suspected of causing cancer	R40
H360F May damage fertility	R60
H360D May damage the unborn child	R61
H360FD May damage fertility. May damage the unborn child	R60/61/60-61
H360Fd May damage fertility. Suspected of damaging the unborn child	R60/63
H360Df May damage the unborn child. Suspected of damaging fertility	R61/62
H361f Suspected of damaging fertility	R62
H361d Suspected of damaging the unborn child	R63
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.	R62-63
H362 May cause harm to breast fed children	R64
H370 Causes damage to organs	R39/23/24/25/26/27/28
H371 May cause damage to organs	R68/20/21/22
H372 Causes damage to organs through prolonged or repeated exposure	R48/25/24/23
H373 May cause damage to organs through prolonged or repeated exposure	R48/20/21/22
H400 Very toxic to aquatic life	R50

the hazard statements specified in list of hazard statement in accordance with Regulation (EC) No 1272/2008 of the European Parliament and of the Council or Council Directive 67/548/E or substances referred to in Article 57 of Regulation (EC) No 1907/2006.

The hazard statements in Table 15 generally refer to substances. However, if information on substances cannot be obtained, the classification rules for mixtures apply.

Substances or mixtures which change their properties through processing and thus become no longer bioavailable, or undergo chemical modification in a way that removes the previously identified hazard are exempted from criterion X(b).

Table 15: Hazard statements

GHS Hazard Statement
H300 Fatal if swallowed
H301 Toxic if swallowed
H304 May be fatal if swallowed and enters airways
H310 Fatal in contact with skin
H311 Toxic in contact with skin
H330 Fatal if inhaled
H331 Toxic if inhaled
H340 May cause genetic defects
H341 Suspected of causing genetic defects
H350 May cause cancer
H350i May cause cancer by inhalation
H351 Suspected of causing cancer
H360F May damage fertility
H360D May damage the unborn child
H360FD May damage fertility. May damage the unborn child
H360Fd May damage fertility. Suspected of damaging the unborn child
H360Df May damage the unborn child. Suspected of damaging fertility
H361f Suspected of damaging fertility
H361d Suspected of damaging the unborn child
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
H362 May cause harm to breast fed children
H370 Causes damage to organs
H371 May cause damage to organs
H372 Causes damage to organs through prolonged or repeated exposure
H373 May cause damage to organs through prolonged or repeated exposure

H410 Very toxic to aquatic life with long-lasting effects	R50-53
H411 Toxic to aquatic life with long-lasting effects	R51-53
H412 Harmful to aquatic life with long-lasting effects	R52-53
H413 May cause long-lasting harmful effects to aquatic life	R5R593
EUH059 Hazardous to the ozone layer	R29
EUH029 Contact with water liberates toxic gas	R29
EUH031 Contact with acids liberates toxic gas	R31
EUH032 Contact with acids liberates very toxic gas	R32
EUH070 Toxic by eye contact	R39-41
Sensitising substances	
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled	R42
H317: May cause allergic skin reaction	R43

This criterion applies to all ingredients present in concentrations $\geq 0,010\%$, including preservatives, colouring agents and fragrances.

The use of substances or mixtures which upon processing change their properties (e.g. become no longer bioavailable, undergo chemical modification) in a way that the identified hazard no longer applies are exempted from the above requirement.

Derogations: the following substances or mixtures are specifically exempted from this requirement:

Surfactants in concentrations < 25 % in the product	H400 Very toxic to aquatic life	R 50
Biocides used for preservation purposes (*)	H410 Very toxic to aquatic life with long-lasting effects	R50-53
	H411 Toxic to aquatic life with long-lasting effects	R51-53
Fragrances	H412 Harmful to aquatic life with long-lasting effects	R52-53
Biocides used for preservation purposes (*)		
Enzymes (**)	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled	R42

H400 Very toxic to aquatic life
H410 Very toxic to aquatic life with long-lasting effects
H411 Toxic to aquatic life with long-lasting effects
H412 Harmful to aquatic life with long-lasting effects
H413 May cause long-lasting harmful effects to aquatic life
EUH059 Hazardous to the ozone layer
EUH029 Contact with water liberates toxic gas
EUH031 Contact with acids liberates toxic gas
EUH032 Contact with acids liberates very toxic gas
EUH070 Toxic by eye contact
Sensitising substances
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
H317: May cause allergic skin reaction

This criterion applies to all ingredients present in concentrations $\geq 0,01\%$, including preservatives, colouring agents and fragrances.

For consumer dishwasher products, the substances in Table 16 are exempted from the obligation in Article 6(6) of Regulation (EC) No 66/2010 following application of Article 6(7) of the same Regulation.

Table 16: Derogated substances - To be discussed in the 1st AHWG meeting

Derogated substance	H phrases
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Assessment and verification: the applicant shall demonstrate compliance with criterion X(b) for any ingoing substance or mixture present at concentrations greater than 0,010% in the product.

A declaration of compliance shall be provided by the applicant supported, where appropriate, by the declarations from producer(s) of the raw materials that none of these ingoing substances and/or mixtures meet the criteria for classification with one or more of hazard statements listed in the form(s) and physical state(s) they are present in the product.

The following technical information related to the form(s) and physical state(s) of the ingoing substances and/or mixtures as present in the product shall be provided to support the declaration of non-classification:

(i) For substances that have not been registered under Regulation (EC) No 1907/2006 and/or which do not yet have a harmonised CLP classification: Information meeting the requirements listed in Annex VII to that Regulation;

	H317: May cause allergic skin reaction	R43
NTA as an impurity in MGDA and GLDA (***)	H351 Suspected of causing cancer	R40

(*) Referred to in criterion 2e. This exemption is applicable provided that biocides' bioaccumulation potentials are characterised by log Pow (log octanol/water partition coefficient) < 3,0 or an experimentally determined bioconcentration factor (BCF) ≤ 100.

(**) Including stabilisers and other auxiliary substances in the preparations.

(***) In concentrations lower than 1,0 % in the raw material as long as the total concentration in the final product is lower than 0,10 %.

Assessment and verification: The applicant shall provide the exact formulation of the product to the competent body. The applicant shall also provide a declaration of compliance with this criterion, together with related documentation, such as declarations of compliance signed by the material suppliers and copies of relevant Safety Data Sheets for substances or mixtures.

(c) Substances listed in accordance with Article 59(1) of Regulation (EC) No 1907/2006

No derogation from the exclusion in Article 6(6) shall be given concerning substances identified as substances of very high concern and included in the list foreseen in Article 59 of Regulation (EC) No 1907/2006 present in mixtures in concentrations higher than 0,010 %.

Assessment and verification: The list of substances identified as substances of very high concern and included in the candidate list in accordance with Article 59 of Regulation (EC) No 1907/2006 can be found here: http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp

Reference to the list shall be made on the date of application. The applicant shall provide the exact formulation of the product to the competent body. The applicant shall also provide a declaration of compliance with this criterion, together with related documentation, such as declarations of compliance signed by the material suppliers and copies of relevant Safety Data Sheets for

(ii) For substances that have been registered under Regulation (EC) No 1907/2006 and which do not meet the requirements for CLP classification: information based on the REACH registration dossier confirming the non-classified status of the substance;
(iii) For substances that have a harmonised classification or are self-classified: safety data sheets where available. If these are not available or the substance is self-classified then information shall be provided relevant to the substances hazard classification according to Annex II to Regulation (EC) No 1907/2006;

(iv) In the case of mixtures: safety data sheets where available. If these are not available then calculation of the mixture classification shall be provided according to the rules under Regulation (EC) No 1272/2008 together with information relevant to the mixtures hazard classification according to Annex II to Regulation (EC) No 1907/2006.

For substances listed in Annexes IV and V to Regulation (EC) No 1907/2006, which are exempted from registration obligations under point (a) and (b) of Article 2(7) of that Regulation, a declaration to this effect by the applicant shall suffice to comply with criterion 3(b).

A declaration on the presence of ingoing substances that fulfil the derogation conditions shall be provided by the applicant, supported, where appropriate, by declarations from the producer(s) of the raw materials. Where required for the derogation, the applicant shall confirm the concentrations of these ingoing substances in the final product.

(c) Ingoing substances listed in accordance with Article 59(1) of Regulation (EC) No 1907/2006

No derogation from the exclusion in Article 6(6) of Regulation (EC) No 66/2010 shall be given concerning ingoing substances identified as substances of very high concern and included in the list provided for in Article 59(1) of Regulation (EC) No 1907/2006³¹, present in the product in concentrations higher than 0,010 % (weight by weight).

Assessment and verification: reference to the list of substances identified as substances of very high concern shall be made on the date of application. The applicant shall provide the full formulation of the product to the competent body. The applicant shall also provide a declaration of compliance with criterion 3(c), together with related documentation, such as declarations of compliance signed by the material suppliers and copies of relevant safety data sheets for substances or mixtures.

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http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp

substances or mixtures.

(d) Specified limited ingredients – fragrances

Any ingredients added to the product as a fragrance shall be manufactured and handled following the code of practice of the International Fragrance Association (IFRA). The code can be found on IFRA website: <http://www.ifraorg.org>.

The recommendations of the IFRA Standards concerning prohibition, restricted use and specified purity criteria for materials shall be followed by the manufacturer.

Fragrance substances subject to the declaration requirement provided for in Regulation (EC) No 648/2004 of the European Parliament and of the Council on detergents (Annex VII) and which are not already excluded by criterion 2b and (other) fragrance substances classified H317/R43 (May cause allergic skin reaction) and/or H334/R42 (May cause allergy or asthma symptoms or breathing difficulties if inhaled) shall not be present in quantities $\geq 0,010\%$ (≥ 100 ppm) per substance.

Assessment and verification: The applicant shall provide a signed declaration of compliance indicating the amount of fragrances in the product. The applicant shall also provide a declaration from the fragrance manufacturer specifying the content of each of the substances in the fragrances which are listed in Annex III, Part I to Council Directive 76/768/EEC as well as the content of (other) substances which have been assigned the risk phrases H317/R43 and/or H334/R42.

(e) Biocides

(i) The product may only include biocides in order to preserve the product, and in the appropriate dosage for this purpose alone. This does not refer to surfactants, which may also have biocidal properties.

Assessment and verification: the applicant shall provide copies of the material safety data sheets of any preservatives added, together with information on their exact concentration in the product. The manufacturer or supplier of the preservatives shall provide information on the dosage necessary to preserve the product (e.g. results of a challenge test or equivalent).

(ii) It is prohibited to claim or suggest on the packaging or by any other communication that the product has an antimicrobial action.

Assessment and verification: the applicant shall provide texts and layouts used on each type of packaging and/or an example of each different type of packaging to the competent body. .

(d) Specified limited ingredients – fragrances

Any ingoing substance or mixture added to the product as a fragrance shall be manufactured and handled following the code of practice of the International Fragrance Association (IFRA). The code can be found on the IFRA website: <http://www.ifraorg.org>. The recommendations of the IFRA Standards concerning prohibition, restricted use and specified purity criteria for materials shall be followed by the manufacturer.

Assessment and verification: *the applicant shall provide a signed declaration of compliance, supported by a declaration of the fragrance manufacturer, as appropriate.*

(e) Preservatives

(vii) The product may contain preservatives provided that they are not bioaccumulating. A preservative is not considered bioaccumulating if $BCF < 100$ or $\log Pow < 3,0$. If both BCF and $\log K_{ow}$ values are available, the highest measured BCF value shall be used.

(viii) Preservatives in the product shall not release or degrade to substances that are classified in accordance with the requirements of criterion x(b) Hazardous substances and mixtures.

(ix) It is prohibited to claim or suggest on the packaging or by any other communication that the product has an antimicrobial action.

Assessment and verification: *the applicant shall provide a signed declaration of compliance, together with copies of the safety data sheets of any preservative added, and information on its BCF and/or $\log K_{ow}$ values. The applicant shall provide also artwork of*

	<p><i>the packaging.</i></p> <p>(e) Colorants</p> <p>Colorants in the product must not be bioaccumulating. A colorant is considered not bioaccumulating if $BCF < 100$ or $\log P_{ow} < 3.0$. If both BCF and $\log K_{ow}$ values are available, the highest measured BCF value shall be used. In the case of colouring agents approved for use in food, it is not necessary to submit documentation of bioaccumulation potential.</p> <p>Assessment and verification: the applicant shall provide copies of the safety data sheets of any colorant added together with information on its BCF and/or $\log K_{ow}$ value, or documentation to ensure that the colouring agent is approved for use in food.</p> <p>(e) Enzymes</p> <p>Enzymes must be in liquid form or dust-free granulate. Enzymes must be free from micro-organism remnants from manufacture.</p> <p>Assessment and verification: the applicant shall provide copies of the material safety data sheets of any enzyme added, together with documentation to ensure that the enzyme is free from micro-organism remnants.</p> <p>(f) Phosphorus compounds</p> <p>The total quantity of phosphorus compounds must not exceed</p> <ul style="list-style-type: none"> - 0,20 Pg/wash for dishwasher detergents and - 0,03 Pg/wash rinsing agents <p>Assessment and verification The applicant shall provide written statements on compliance (concerning the total amount of phosphorus), including:</p> <ul style="list-style-type: none"> - information on the complexing agents in the product (detail information of the type of phosphorus-content substances added as ingredients); - information on the recommended dose for different levels of soiling or water hardness (when applicable); - calculation of the product's total P-content
	<p>The proposed changes are focused on the following aspects:</p> <p>(a) Specified excluded ingoing substances and mixtures</p> <p>Several substances are proposed to be added to the excluded substances list based on initial feedback and information collected, however further consideration of the scope of this sub-criterion is needed</p>

	<p>(b) Hazardous substances and mixtures Updating removing the R-phrases that are about to be phased out is included. For the time being, there is no enough evidences to keep the current derogations, therefore no derogations are proposed in this revision and it is open the period for requiring derogations of those substances with classification that are needed to be used in this product group.</p> <p>(d) Specific limited substances</p> <ul style="list-style-type: none">- Fragrances: exclusion of specific fragrances is proposed as well as updating of the Regulation (EC) No 1223/2009 (moved to criterion (a)).- Preservatives: replace the current sub-criterion on biocides. The changes proposed remove the difficulties of verification of the current criterion and introduce the requirement on non-bioaccumulation and that the preservatives do not release or degrade to substances that are even more hazardous.- new limitations dealing with colorants, enzymes and phosphorus content are proposed to be included.
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Criterion 3: Toxicity to aquatic organisms: Critical Dilution Volume

The critical dilution volume (CDV chronic) of the product must not exceed the following limits for CDV chronic :

Product type	Limit CDV chronic
Single-functional dishwasher detergents	25 000 l/wash
Multi-functional dishwasher detergents	30 000 l/wash
Rinse aid	10 000 l/wash

The critical dilution volume toxicity (CDV_{chronic}) is calculated for all ingredients (i) in the product using the following equation:

$$CDV = \sum CDV(i) = 1000 \cdot \sum dosage(i) \cdot \frac{DF(i)}{TF(i)}$$

where

weight (i) = the weight of the ingredient per recommended dose

DF = the degradation factor

TF = the chronic toxicity factor of the substance as stated in the DID list.

Preservatives, colouring agents and fragrances present in the product shall also be included in the CDV calculation even if the concentration is lower than 0,010 % (100 ppm).

Assessment and verification: Calculation of the CDV chronic of the product. A spreadsheet for calculation of the CDV value is available on the EU Ecolabel website.

The values of the DF and TF parameters shall be as given in the Detergent Ingredient Database list (DID list). If the substance is not found on the DID list, the parameters shall be calculated using the guidelines in Part B of the DID list and attaching the associated documentation.

The critical dilution volume (CDV) of the product must not exceed the following limits for the reference dosage:

Product type	Limit CDV
Single-function dishwasher detergents	20 000 l/wash
Multi-function dishwasher detergents	25 000 l/wash
Rinse aid	7 500 l/wash

Assessment and verification: Calculation of the CDV of the product. A spreadsheet for calculation of the CDV value is available on the EU Ecolabel website.

The Critical Dilution Volume (CDV) is calculated for all ingoing substances and mixtures (i) in the product using the following equation:

$$CDV = \sum CDV(i) = 1000 \cdot \sum dosage(i) \cdot \frac{DF(i)}{TF(i)}$$

Where:

dosage(i): weight (g) of the substance or mixture *i* in the reference dose,

DF(i): degradation factor for the substance or mixture *i*

TF(i): toxicity factor for the substance or mixture *i*

The values of *DF(i)* and *TF(i)* shall be as given in the DID list Part A (Appendix I). If a substance or mixture is not included in the DID list Part A, the applicant shall estimate the values follow the approach described in the DID list Part B (Appendix I).

The proposed changes focused on the criterion name to be in line with other schemes and stricter limits of CDV values in all the products included in this product group. The grounds for this revision are the information collected during this revision showing the most of the detergents easily achieved the current limits. A restriction of 20% for the detergents and 25% for rinse aids is proposed.

Criterion 4- Biodegradability of organics

The content of organic substances in the product that are aerobically non-biodegradable (not readily biodegradable) (aNBO) and/or anaerobically non-biodegradable (anNBO) shall not exceed the following limits:

Product type	aNBO	anNBO
Dishwasher detergents	1,0 g/wash	5,5 g/wash
Rinsed-off	0,15 g/wash	0,5 g/wash

Assessment and verification Calculation of aNBO and anNBO for the product. A spreadsheet for use in calculating aNBO and anNBO values is available at the EU Ecolabel website.

Refer to the DID list. For ingredients which are not included in the DID list, the relevant information from literature or other sources, or appropriate test results, showing that they are aerobically and anaerobically biodegradable shall be provided. See Appendix I.

Note that TAED should be considered anaerobically biodegradable

a) Biodegradability of surfactants

To be discussed at the 1st AHWG meeting.

All surfactants shall be biodegradable under aerobic conditions.

All surfactants shall be biodegradable under anaerobic conditions.

b) Biodegradability of organic substances and mixtures

To be discussed at the 1st AHWG meeting.

The content of organic substances and mixtures in the product that are aerobically non-biodegradable (not readily biodegradable aNBO) or anaerobically non-biodegradable (anNBO) shall not exceed the following limits for the reference dosage:

Product type	aNBO	anNBO
Dishwasher detergents	1,0 g/wash	5,5 g/wash
Rinsed-aids	0,15 g/wash	0,5 g/wash

Assessment and verification: The applicant shall provide documentation for the degradability of surfactants, as well as the calculations of aNBO and anNBO for the product. A spreadsheet for use in calculating aNBO and anNBO values is available on the EU Ecolabel website.

For both surfactants and aNBO and anNBO values, reference shall be made to the DID List. For ingredients which are not included in the DID List, the relevant information from literature or other sources, or appropriate test results, showing that they are aerobically and anaerobically biodegradable shall be provided as described in Appendix I.

In the absence of documentation in accordance with the above requirements, an ingoing substances and mixtures other than a surfactant may be exempted from the requirement for anaerobic degradability if one of the following three alternatives is fulfilled:

1. Readily degradable and has low adsorption ($A < 25\%$);
2. Readily degradable and has high desorption ($D > 75\%$);
3. Readily degradable and non-bioaccumulating.

Testing for adsorption/desorption may be conducted in accordance with OECD guidelines 106.

As six EU Ecolabels related to detergents are being revised at the same time and as these products often have similar formulations, it is judicious to consider the harmonisation of their criteria. The current six EU Ecolabel criteria approach the subject using three different manners and stakeholder consultation has yielded a multitude of opinions. It has thus been decided that a discussion during the 1st AHWG meeting will be held. As a starting point for the harmonised approach, the criterion included in the most recently voted criteria for industrial and institutional products (laundry and dishwasher detergents) is proposed. The criterion will be revised following discussions with stakeholders. Collection

of data on aNBO and anNBO is conducted.

Criterion 5 – Fitness for use

The product shall have a satisfactory washing performance at the recommended dosage according to the standard test developed by IKW or the standard EN 50242 as modified as follows.

The tests shall be carried out at 55 °C or at a lower temperature if the product claims to be efficient at this temperature.

When applying for rinse aids in combination with dishwasher detergents, the rinse aid shall be used in the test instead of the reference rinse aid.

For multifunctional products the applicant must submit documentation proving the effect of the claimed functions.

Assessment and verification: The test report shall be submitted to the Competent Body. A test other than the IKW test or the modified version of EN 50242 may be used if the Competent Body assessing the application accepts its equivalence.

If EN 50242:2008 is used, the following modifications shall apply:

- the tests shall be carried out at 55 °C ± 2 °C (or at a lower temperature if the detergent claims to be efficient at a temperature below 55 °C) with cold pre-wash without detergent,
- the machine used in the test shall be connected to cold water and must hold 12 place settings with a washing index of between 3,35 and 3,75,
- the machine's drying programme shall be used, but only the cleanliness of the dishes shall be assessed,
- a weak acidic rinsing agent in accordance with the standard (formula III) shall be used,
- the rinsing agent setting shall be between 2 and 3,
- the dosage of dishwasher detergent shall be as recommended by the manufacturer,
- three attempts shall be carried out at a water hardness in accordance with the standard,
- an attempt consists of five washes where the result is read after the fifth wash without the dishes being cleaned between the washes,
- the result shall be better than or identical to the reference detergent after the fifth wash,
- recipe for the reference detergent (Detergent B IEC 436) and rinsing agent (formula III), see Appendix B in the standard EN 50242:2008 (the surfactants are to be stored in a cool place in watertight containers not

Tests shall be carried out to ensure that the product has a satisfactory wash performance at the lowest recommended dosage for the water hardness according to most updated IKW standard available at http://www.ikw.org/fileadmin/content/downloads/Haushaltspflege/HP_DishwasherA_B_e.pdf or the modified standard EN 50242:2008

The tests shall be carried out at 50C water temperature or at the lowest temperature the product claims to be effective at. When applying for rinse aids in combination with dishwasher detergents, the rinse aid shall be used in the test instead of the reference rinse aid. For multifunctional products the applicant must submit documentation proving the effect of the claimed functions.

The test shall be performed by a laboratory complying with Appendix (to be added)

Assessment and verification: The applicant shall provide documentation confirming that the product has been tested under the standard conditions. Information should be provided on:

- (a) Type of spots that are representative for the kind of soiled expected in the areas where the products will be marketed.
- (b) Information on the recommended dosage at the corresponding water hardness and the lowest recommended wash temperature at which the product claims to be effective
 - (c) The product's ability to remove soiling from the surfaces or materials and the effectiveness of other products the detergent shall be used with (eg. rinse aids)
- (d) Information about the reference product against which the test product has been tested: market leadership, lowest commended dosage or dosage used (if no information is provided) and temperature, date of purchase and date of testing.
- (e) Documentation confirming the compliance within the laboratory requirements included in Appendix (to be added)

If EN 50242:2008 is used the following modifications shall apply:

- the tests shall be carried out at 50 °C ± 2 °C (or at a lower temperature if the detergent claims to be efficient at a temperature below 50 °C) with cold pre-wash without detergent
- the machine used in the test shall be connected to cold water and must hold 12 place settings with a washing index of between 3.35 and 3.75
- the machine's drying programme shall be used, but only the cleanliness of the dishes shall be assessed

<p>exceeding 1 kg and are to be used within 3 months). If rinse aid and salt functions are a part of a multifunctional product the effect must be documented by test. The applicant must be able to document the effect of other functions in multifunctional detergents.</p>	<ul style="list-style-type: none"> • a weak acidic rinsing agent in accordance with the standard (formula III) shall be used, • the rinsing agent setting shall be between 2 and 3 • the dosage of dishwasher detergent shall be as recommended by the manufacturer • three attempts shall be carried out at a water hardness in accordance with the standard • an attempt consists of five washes where the result is read after the fifth wash without the dishes being cleaned between the washes • the result shall be better than or identical to the reference detergent after the fifth wash • recipe for the reference detergent (Detergent B IEC 436) and rinsing agent (formula III), see Appendix B in the standard EN 50242:2008 (the surfactants are to be stored in a cool place in watertight containers not exceeding 1 kg and are to be used within 3 months). <p>If rinse aid and salt functions are a part of a multifunctional product the effect must be documented by test.</p> <p>The applicant must be able to document the effect of other functions in multifunctional detergents.</p>
	<p>The proposed changes include the updating of the link to the current IKW standard and the recommendation of using the most updated version of this standard. Additionally, a list of information needed to verify the fitness for use of the consumer dishwasher detergent in accordance with the claims of the producer has been added and a lower temperature (50C instead of 55C) is proposed to carry out the test method.</p>

Criterion 6 - Packaging

(a) Primary packaging per functional unit

Primary packaging shall not exceed 2,0 grams per wash.

(b) Cardboard packaging

Cardboard primary packaging shall consist of ≥ 80 % recycled material.

(c) Labelling of plastic packaging

To allow for identification of different parts of the packaging for recycling, plastic parts in the primary packaging must be marked in accordance with DIN 6120, Part 2 or the equivalent. Caps and pumps are exempted from this requirement.

(d) Plastic packaging

Only phthalates that at the time of application have been risk assessed and have not been classified according to criterion 2(b) may be used in the plastic packaging.

Assessment and verification: The applicant shall provide the calculation of the quantity of primary packaging and a declaration regarding the percentage of recycled material in cardboard packaging to the competent body. The applicant shall provide completed and signed declaration of compliance with 6d.

a) Weight/utility ratio (WUR)

The weight/utility ratio (WUR) of the product shall be calculated for the primary packaging only and shall not exceed the following values for the reference dosage:

Product type	WUR
Dishwasher detergents	2,4 g
Rinse aids	1,5 g

Are exempted from this requirement:

- Plastic/paper/cardboard packaging containing more than 80 % recycled materials,
- Paper/cardboard packaging that comes 80% from certified sustainable sources,
- Plastic packaging containing more than 80 % plastic from sustainable sources.

Assessment and verification: the applicant shall provide the calculation of the WUR of the product. A spreadsheet for this calculation is available on the EU Ecolabel website. If the product is sold in different packaging (i.e. with different volumes), the calculation shall be submitted for each packaging size for which the EU Ecolabel shall be awarded.

The applicant shall provide a completed and signed declaration for the content of recycled material in the packaging.

- For paper and cardboard, packaging is regarded as recycled if the raw material used to make the packaging has been collected from packaging manufacturers at the distribution stage or at the consumer stage. Where the raw material is industrial waste from the material manufacturer's own production process, then the material will not be regarded as recycled.

- For plastic, packaging is regarded as recycled if the raw material used to make the packaging comes from industrial waste or has been collected from packaging manufacturer at the distribution or at the consumer stage.

The applicant shall provide a completed and signed declaration for the content of sustainably sourced material in the packaging. For paper and cardboard, the applicant shall provide TBD. For plastic, the applicant shall provide TBD.

The WUR is calculated as follows:

$$WUR = \sum ((W_i + U_i) / (D_i * R_i))$$

Where:

Wi: weight (g) of the primary packaging (i),

Ui: weight (g) of non-recycled and non-sustainably sourced packaging in the primary packaging (i). $U_i = W_i$ unless the applicant can document otherwise,
 Di: number of reference doses contained in the primary packaging (i),
 Ri: number of times that the primary packaging (i) can be refilled and used for the same purpose. $R_i = 1$ (packaging is not reused for the same purpose) unless the applicant can document a higher number.

b) Design for recycling

Plastic packaging shall be designed to facilitate effective recycling by avoiding potential contaminants and incompatible materials that are known to impede separation or reprocessing or to reduce the quality of recycle. The label or sleeve, closure and, where applicable, barrier coatings shall not comprise, either singularly or in combination the materials and components listed in Table 17. Pumps are exempted from this requirement.

Table 17: Materials and components excluded from packaging elements

Packaging element	Excluded materials and components ³²
Label or sleeve	<ul style="list-style-type: none"> - PS label or sleeve in combination material used with a PET, PP or HDPE bottle - PVC label or sleeve in combination with a PET, PP or HDPE bottle - PETG label or sleeve in combination with a PET bottle - Sleeves made of different polymer than the bottle - Labels or sleeves that are metallised or are welded to a packaging body (in mould labelling)
Closure	<ul style="list-style-type: none"> - PS closure in combination a with a PET, HDPE or PP bottle - PVC closure in combination with a PET, PP or HDPE bottle - PETG closures and/or closure material with density of above 1 g/cm³ in combination with a PET bottle - Closures made of metal, glass, EVA - Closures made of silicone. Exempted are silicone closures with a density < 1 g/cm³ in combination with a PET bottle and silicone closures with a density > 1g/cm³ in combination with PEHD or PP bottle - Metallic foils or seals which remain fixed to the bottle or its closure after the product has been opened

³² EVA – Ethylene Vinyl Acetate, EVOH – Ethylene vinyl alcohol, HDPE – High-density polyethylene, PET – Polyethylene terephthalate, PETG – Polyethylene terephthalate glycol-modified, PP – Polypropylene, PS – Polystyrene, PVC – Polyvinylchloride

	<table border="1"> <tr> <td>Barrier coatings</td> <td>Polyamide, EVOH, functional polyolefins, metallised and light blocking barriers</td> </tr> </table> <p>Assessment and verification: The applicant shall submit a signed declaration of compliance specifying the material composition of the packaging including the container, label or sleeve, adhesives, closure and barrier coating, and a sample of primary packaging.</p>	Barrier coatings	Polyamide, EVOH, functional polyolefins, metallised and light blocking barriers
Barrier coatings	Polyamide, EVOH, functional polyolefins, metallised and light blocking barriers		
	<p>The proposed changes are focused on the introduction of WUR index to assess the quantity of packaging from raw materials used in the product group. Technical Annexe Section 4.2 provides the definition for primary packaging. The criterion is also proposed to be expanded to promote the recyclability of plastic packaging by limiting combinations of materials that can hinder the recycling process.</p>		
Criterion 7 – User information			
<p>(a) Information on the packaging The following text (or equivalent) shall appear on or in the product: 'This Ecolabelled detergent works well at low temperatures (*). Select low temperature washing cycles on the dishwasher, wash full loads and do not exceed the recommended dosage. This will minimise both energy and water consumption and reduce water pollution. (*). The applicant shall insert here the recommended temperature or range of temperatures that shall not exceed 55 °C.'</p> <p>(b) Dosage instructions Dosage instructions shall appear on the product packages. The recommended dosages shall be specified for the ranges of water hardness appropriate to where the product is marketed. The instructions shall specify how to make best use of the product according to the soil. The applicant shall take suitable steps to help the consumer respect the recommended dosage, for example by making available a dosage device (for powdered or liquid products), and/or by indicating the recommended dosage at least in ml (for powdered or liquid products).</p> <p>(c) Information and labelling of ingredients The type of enzymes shall be indicated on the packaging. Assessment and verification: The applicant shall provide a sample of the product label together with a declaration of compliance with each Part (a), (b) and (c) of this criterion</p>	<p>The detergent shall be accompanied by instructions for proper use so as to maximise product performance and minimise waste. These instructions shall be legible or include graphical representation or icons and include information on:</p> <p>a) dosing instructions The primary packaging shall include information on the recommended dosage for a standard load for at least two levels of soiling. A second well-known metric may be given in brackets. If the packing has an efficient and convenient dosage system that can provide an equally reliable dosage, an alternative metric (e.g. capsules, squirts, or other) can be used. The dosing instructions shall include information on the impact of water hardness on dosing and indicate the most prevalent water hardness in the area where the product is intended to be marketed or where this information can be found. A recommendation of using salt to reduce the water hardness and the amount of detergent needed should be included, if appropriate in the location to be marketed.</p> <p>b) resource saving measures An indication on the primary packaging shall encourage users to wash at the lowest appropriate temperature: the applicant shall recommend washing at the lowest temperature the product claims effectiveness, which shall not be higher than 50C. An indication on the primary packaging shall encourage users to wash full loads.</p> <p>c) packaging disposal information The primary packaging shall include information on the reuse, recycling and/or correct disposal of packaging.</p> <p>d) environmental information (voluntary)</p>		

	<p>The following text is recommended to appear on the primary packaging but its use is voluntary: "All detergents have an effect on the environment. Always use the correct dose for maximum effectiveness, the lowest recommended temperature. This will minimize both energy and water consumption and reduce water pollution".</p> <p>Assessment and verification: The applicant shall provide a sample of the product packaging, including the label.</p>
	<p>The proposed changes bring further harmonisation among the "User information" criteria found in the different detergent EU Ecolabels and mention key information on aspects that ensure the best performance of the detergent while reducing environmental impacts.</p>
Criterion 8 – Information appearing on the EU Ecolabel	
<p>Optional label with text box shall contain the following text: ‘— Reduced impact on aquatic ecosystems — Restricted hazardous substances — Performance tested’ The guidelines for the use of the optional label with text box can be found in the ‘Guidelines for use of the Ecolabel logo’ on the website: http://ec.europa.eu/environment/ecolabel/promo/logos_en.htm</p> <p>Assessment and verification: The applicant shall provide a sample of the label.</p>	<p>The logo should be visible and legible. The use of the EU Ecolabel logo is protected in primary EU law. The EU Ecolabel registration/licence number must appear on the product, it must be legible and clearly visible.</p> <p>The optional label with text box shall contain the following text: - reduced impact on aquatic ecosystems - limited hazardous substances - performance tested</p> <p>Assessment and verification: The applicant shall provide a sample of the product packaging, including the label.</p>
	<p>The proposed change is the introduction of the guidelines to place the EU Ecolabel logo in a visible and legible position on the packaging. The licence number should be displayed</p>
Criterion NEW - Sustainable sourcing of palm oil, palm kernel oil and their derivatives	
	<p>Ingredients used in the product which are derived from palm oil or palm kernel oil must be sourced from plantations that meet the criteria for sustainable management that have been developed by multi-stakeholder organisations who have a broad based membership including NGOs, industry and government.</p> <p>Assessment and verification: the applicant shall provide third-party certifications that the palm oil used in the manufacturing of the product originates from sustainable managed plantations. Certifications accepted shall include RSPO (by identified preserved, segregates or mass balance) or any equivalent scheme based on multi-stakeholder sustainable management criteria. For chemical derivatives of palm oil it is acceptable to demonstrate sustainability for these through book and claim systems such as GreenPalm or equivalent.</p>

3.7 Revision of main decision text

3.7.1 Name, definition and scope for EU Ecolabel

Current definition:

The product group 'Detergents for Dishwashers' shall comprise detergents for dishwashers and products used as rinse aids, whether in powder, liquid or any other form, which are intended to be marketed and used exclusively in automatic domestic dishwashers and in automatic dishwashers for professional use, the size and usage of which is similar to that of domestic dishwashers.

Proposal for new definition and scope:

The product group 'consumer dishwasher detergents' shall comprise detergents for dishwashers and products used as rinse aids, whether in powder, liquid or any other form, which are intended to be marketed and used exclusively in automatic **consumer** dishwashers and in automatic dishwashers for professional use, the size and usage of which is similar to that of **private use**.

Rationale and discussion

The Detergents Regulation provides the following definition for the product group covered by this EU Ecolabel:

"consumer automatic dishwasher detergent" means a detergent placed on the market for use in automatic dishwashers by non-professionals.

In order to harmonise the EU Ecolabel with the Detergents Regulation and the EU Ecolabel for industrial and institutional automatic dishwasher detergents and to clarify the scope, it is proposed to change the **name** of the product group from **"detergents for dishwashers" to "consumer dishwasher detergents"**. The term "automatic" is not proposed to be included in the definition, unlike in the Regulation, as modern dishwashers are automatic by definition. *Further information on the differences between consumer and industrial and institutional detergents can be found in the Technical Annexe (Section 7.3.1).*

No changes are proposed to the **definition** and **scope** of the EU Ecolabel as the market analysis, the stakeholder survey and review of other ecolabels and voluntary agreements for dishwasher detergents have shown that the current definition and scope are in line with the current state of the consumer dishwasher detergent market and no further issues were raised during consultation.

Further information on these can be found in Sections 3.2, 2.3 and 2.5 respectively of the Preliminary Report³³.

³³ Preliminary report for the revision of European Ecological Criteria for detergents for dishwashers: domestic and industrial and institutional, available at: <http://susproc.jrc.ec.europa.eu/detergents/index.html>

3.7.2 Definitions

Current definition text

For the purpose of this Decision, the following definitions shall apply:

'Substance' means a chemical element and their compounds in the natural state or obtained by any production process, including any additive necessary to preserve the stability of the products and any impurity deriving from the process used, but excluding any solvent which may be separated without affecting the stability of the substance or changing its composition.

Proposal for definitions text

(1) "ingoin substances and mixtures" means

- biocides, fragrances, colouring agents, and mixtures thereof, regardless of concentration in the final formulation,
- substances and mixtures intentionally added, by-products and impurities from raw materials, the concentration of which equals or exceeds 0,010% by weight of final formulation,

(2) "primary packaging" means

- for single doses in a wrapper that is intended to be removed before washing, the individual dose wrapping in direct contact with the content and the packaging conceived so as to constitute the smallest sales unit of distribution to the final user or consumer at the point of purchase, including label where applicable,
- for all other types of products, packaging conceived so as to constitute the smallest sales unit of distribution to the final user or consumer at the point of purchase in direct contact with the content, including label where applicable.

Rationale and discussion

For further information on the update of definitions listed, refer to the Technical Annexe (Section 7.4.3).

Several definitions are proposed to be added in the main decision text in order to clarify and simply the subsequent wording of criteria.

The definition for "substance" is proposed to be replaced with "ingoin substances and mixtures", which also provides information on the measurement thresholds for the different types of substances and mixtures covered.

The definition for "primary packaging" is proposed to be moved from the criterion on packaging to the definition section. The proposed expansion of the definition reflects the fact that consumer dishwasher detergents are often sold in single dose form that may or may not be wrapped in a wrapper that should be thrown away.

3.8 Revision of existing criteria of eu ecolabel

3.8.1 Assessment and verification requirements and measurement thresholds

Current assessment and verification requirements and measurement thresholds

(a) Requirements

The specific assessment and verification requirements are indicated within each criterion.

Where the applicant is required to provide declarations, documentation, analyses, test reports, or other evidence to show compliance with the criteria, it is understood that these may originate from the applicant, and/or his supplier(s), and/or their supplier(s), etc., as appropriate.

Where possible, the testing should be performed by laboratories that meet the general requirements of EN ISO 17025 or equivalent.

Where appropriate, test methods other than those indicated for each criterion may be used if the competent body assessing the application accepts their equivalence.

Appendix I makes reference to the detergent ingredient database (DID list) which contains the most widely used ingredients used in detergent formulations. It shall be used for deriving the data for the calculations of the Critical Dilution Volume (CDV) and for the assessment of the biodegradability of the ingredients. For substances not present on the DID list, guidance is given on how to calculate or extrapolate the relevant data. The latest version of the DID list is available from the EU Ecolabel website or via the websites of the individual competent bodies.

Where appropriate, competent bodies may require supporting documentation and may carry out independent verifications.

(b) Measurement thresholds

Constituent substances the concentration of which exceeds 0,010 % by weight of the preparation shall comply with the ecological criteria.

For preservatives, colouring agents and fragrance compliance with the criteria is required regardless of their concentration except for criterion 2(b) on the content of hazardous substances and mixtures.

Ingoing substances are defined as all substances in the product including additives (e.g. preservatives or stabilizers) in the ingredients. Impurities resulting from the raw material production, which are present in concentrations > 0,010 % by weight of the final formulation shall also comply with the criteria.

If the product has a water-soluble foil intended not to be removed before washing, the foil must be considered to be part of the product formulation in all requirements.

Proposal for assessment and verification requirements and measurement thresholds

a) Requirements

The specific assessment and verification requirements are indicated for each criterion.

Where the applicant is required to provide declarations, documentation, analyses, test reports, or other evidence to show compliance with the criteria, [these may originate from the applicant or his supplier\(s\) or both](#).

Where possible, the testing shall be performed by laboratories that meet the general requirements of European Standard EN ISO 17025 or equivalent.

Where appropriate, test methods other than those indicated for each criterion may be used if the competent body assessing the application accepts their equivalence.

Where appropriate, competent bodies may require supporting documentation and may carry out independent verifications.

The Appendix makes reference to the "Detergent Ingredient Database" list (DID list) which contains the

most widely used ingredients in detergents and cosmetics formulations. It shall be used for deriving the data for the calculations of the Critical Dilution Volume (CDV) and for the assessment of the biodegradability of the ingoing substances. For substances not present on the DID list, guidance is given on how to calculate or extrapolate the relevant data. The latest version of the DID list is available from the EU Ecolabel website or via the websites of the individual competent bodies.

The following information shall be provided to the competent body:

- (i) The full formulation of the product indicating trade name, chemical name, CAS no. and INCI designations, DID no.2, the ingoing quantity including and excluding water, the function and the form of all ingredients regardless of concentration;
- (ii) safety data sheets for each ingoing substance or mixture in accordance with Regulation (EC) No 1907/2006 of the European Parliament and of the Council³.

b) Measurement thresholds

Compliance with the ecological criteria is required for all ingoing substances, with the exception of compliance with criterion 3*(b) and 3*(c) for preservatives, colorants and fragrances which is requested when their concentration equals or exceeds 0,010% by weight in the final formulation.

If the product has a water-soluble foil intended not to be removed before washing, the foil must be considered to be part of the product formulation in all requirements.

*number of criterion to be changed based on the final structure of the criteria

Rationale and discussion

a) Requirements

The text regarding the assessment and verification requirements is proposed to be aligned with the text from the EU Ecolabel on Rinse-off Cosmetics. One of the most significant changes proposed is the addition of the text that clarifies what is to be provided to the Competent Bodies, it was previously found in the section on the assessment and verification of the measurement threshold and functional unit. This change simplifies the reading of the criteria and harmonises the text with the ones for the other product groups being revised.

b) Measurement thresholds

The measurement threshold is the concentration of ingredients in the product for which there is a requirement for documentation of compliance with the ecological criteria. It is proposed to harmonise the measurement thresholds for all the EU Ecolabels in the detergents group and the EU Ecolabel for rinse-off cosmetics. The new text and thresholds are discussed in the Technical Annexe (Section 7.5.3).

In the specific case of the EU Ecolabel for detergents for dishwashers, the new text proposes the same thresholds as in the current one except in the case of section (c) of the criterion on restricted substances. In the current text, fragrances, preservatives and colouring agents are to be taken into account regardless of concentration for all requirements except for section (b) of the criterion on restricted substances, where the measurement threshold of 0,01% applies. In the proposed text, this exception would also apply to section (c) of that same criterion.

3.8.2 Functional unit and reference dose

Current requirements for functional unit and reference dose

Functional unit

The functional unit shall be the quantity of product required to wash 12 place settings with a standard soil (as defined by DIN or ISO standards).

Reference dosage

The dosage recommended by the manufacturer to consumers for normally soiled dishes and 12 place settings is taken as a reference dosage under standard conditions, as laid down in the IKW washing performance test referred to in criterion 5.

Proposal for reference dose

Reference dosage

The following dosage is taken as the reference dosage for the calculations aiming at documenting compliance with the EU Ecolabel criteria and for testing of cleaning ability:

Dishwasher detergent	Dosage recommended by the manufacturer to wash 12 normally soiled place settings under standard conditions ("wash"), as laid down in the IKW washing performance test referred to in criterion 5* (indicated in g/wash or ml/wash).
Rinse aid	3ml

*number of criterion to be updated if the criteria structure changes

Rationale and discussion

A functional unit in the case of detergents for dishwashers is the amount of dishes that should be washed using a reference dosage. A reference dosage is the quantity of product used when calculating compliance with ecological requirements such as biodegradability and CDV. Further information on functional units and reference dosage in EU Ecolabels related to detergents can be found in the Technical Annexe (Section 7.6).

It is proposed to remove the paragraph on the functional unit as it is also defined in the text related to the reference dosage. The reference dosage, both for dishwasher detergents and rinse aids, is proposed to remain the same. In the current text, the reference dosage for rinse aids is indicated in the criteria where it is required (e.g. total chemicals, CDV, aNBO, anNBO) and it is proposed to indicate it alongside the reference dosage for detergents.

3.8.3 Criterion 1: Total chemicals

Current criterion 1

Total chemicals (TC) are the recommended dosage in g/wash minus the water content:

The amount of total chemicals shall not exceed the following amounts:

- a) For single-functional dishwasher detergents: $TC_{max} = 20.0$ g/wash
- b) For multi-functional dishwasher detergents: $TC_{max} = 22.0$ g/wash

When calculating the CDV, aNBO, and anNBO a dosage of rinse aid of 3 ml shall be used.

Assessment and verification: Calculation of the TC of the product. The density (g/ml) shall be stated for liquid products.

Proposal for criterion 1 "Dosage requirements"

The reference dosage shall not exceed the following amounts:

Product type	Dosage
Single-function dishwasher detergent	18,0 g/wash
Multi-function dishwasher detergent	20,0 g/wash

Rinse aids are exempted from this requirement

Assessment and verification: Full formulation of the product, label or artwork including dosage instructions. The density (g/ml) shall be stated for all products (either on the packaging or in a Safety Data Sheet).

Rationale and discussion

As dosage is recognised as an important factor for dishwasher detergents, the environmental impacts of product dosage were investigated in the LCA (Section 4.5.1 of the Preliminary Report). The results of the sensitivity analysis found that a 20% decrease of product dosage lead to environmental gains of up to 7%. The impact is relatively small due to the significance of the high impacts related to the product use phase (see Figure 7).

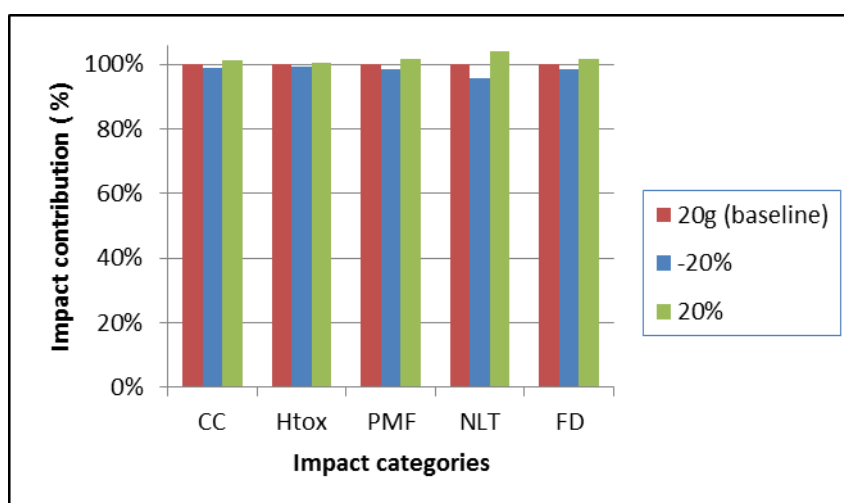


Figure 7: Characterised results of dosage sensitivity

Impact categories stand for FE: Freshwater eutrophication, HTox: Human toxicity, FTox: Freshwater ecotoxicity, MTox: Marine ecotoxicity, NLT: Natural land transformation, WD: Water Depletion

The criterion included in the current EU Ecolabel text considers the total chemicals contained in the product. The impacts of these chemicals are also considered in the toxicity to aquatic

organisms criterion as well as in the one of their biodegradability. It is proposed to change the aim of the criterion to target from simply chemical to the concentration of products, as in the EU Ecolabel for laundry detergents. By increasing the concentration of products and reducing the dosage, such aspects as transport, packaging and raw material extraction can be impacted.

Thus, the name of the criterion is proposed to be changed to "Dosage requirements" and to consider the whole reference dosage and non-only the dry content. The limits proposed are aligned with those of Nordic Swan (Table 18) as they are the most demanding and are a good starting point for discussions. The requirement for stricter limits for this EU Ecolabel was pointed out by several comments from stakeholder on the current Total Chemicals criterion as it was stated to be too lax.

Nordic Swan limits are stated for soft water, which is not the state of the water throughout a large portion of Europe, and could possibly be considered as too strict for a water hardness of 2.5 mmol CaCO₃/l but many modern dishwashers are equipped with water softeners and multi-function products often contain salt to help with water softening. Moreover, a sample study of the market leaders for consumer dishwasher detergents found that multi-function tablets weigh around 19 g and single-function tablets do not weigh over 17g.

In the current criterion, no limit was set for rinse aids. The reasoning behind this is that rinse aid is not dosed by the consumer but instead by the dishwasher and as such the dosage is fixed. Therefore a dosage limit for rinse aids is not a suitable requirement. This is in line with other ecolabels for dishwasher detergents.

Table 18: Dosage requirements for other ecolabels and voluntary schemes

Scheme	Requirement						
AISE Charter for Sustainable Cleaning	For ADW powders and unit doses (e.g. tabs, gel sachets, liquid sachets) with rinse function Dosage g/job (1 dish wash cycle, normal soil, excluding free water from liquid / gel unit doses): ≤ 25 g For ADW powders and unit doses (e.g. tabs, gel sachets, liquid sachets) without rinse function Dosage g/job (1 dish wash cycle, normal soil, excluding free water from liquid / gel unit doses): ≤ 20 g						
Nordic Swan	The maximum dosage limits are: <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Dishwasher detergent</th> <th>Dose (g/wash)</th> </tr> </thead> <tbody> <tr> <td>Single function products</td> <td>18</td> </tr> <tr> <td>Multifunctional products</td> <td>20</td> </tr> </tbody> </table> Rinsing agent is exempted from this requirement.	Dishwasher detergent	Dose (g/wash)	Single function products	18	Multifunctional products	20
Dishwasher detergent	Dose (g/wash)						
Single function products	18						
Multifunctional products	20						
Env. Choice NZ	<i>No dosage limits specified</i>						
EU Ecolabel	Total chemicals (TC) are the recommended dosage in g/wash minus the water content: The amount of total chemicals shall not exceed the following amounts: a) For single-functional dishwasher detergents: TC _{max} = 20.0 g/wash b) For multi-functional dishwasher detergents: TC _{max} = 22.0 g/wash						
Good Env. Choice	Products must give good results at a dosage not exceeding 18 g for soft water (0-6°dH) in a 12-setting dishwasher.						

Consultation questions	
1	Do you agree with the name and focus change for this criterion?
2	Do you agree that the dosage limits proposed?

3.8.4 Criterion 2: Excluded or limited substances or mixtures

Current criterion 2a

The following ingredients must not be included in the product, neither as part of the formulation nor as part of any mixture included in the formulation:

- phosphates
- DTPA (diethylenetriaminepentaacetic acid)
- perborates
- reactive chlorine compounds
- EDTA (ethylenediaminetetraacetate)
- Nitro-musks and polycyclic musks

Assessment and verification: the applicant shall provide a completed and signed declaration of compliance.

Proposal for criterion X(a) – "Specified excluded ingoing substances and mixtures"

The product shall not be formulated or manufactured using any of the following compounds:

- (i) Phosphates
- (ii) Phosphonates that are not readily biodegradable
- (iii) DTPA (diethylenetriaminepentaacetic acid)
- (iv) Perborates
- (v) Reactive chlorine compounds
- (vi) EDTA (ethylenediaminetetraacetate)
- (vii) Nitro-musks and polycyclic musks
- (viii) APEO (alkylphenol ethoxylates) and APD (alkylphenol derivatives)
- (ix) Hydroxyisohexyl 3-cyclohexene carboxaldehyde (HICC)
- (x) Atranol and Chloroatranol
- (xi) Fragrance substances subject to the declaration requirement provided for in Regulation (EC) No 648/2004 of the European Parliament and of the Council on detergents (Annex VII) and which are not already excluded by criterion 2b and (other) fragrance substances classified H317/R43 (May cause allergic skin reaction) and/or H334/R42 (May cause allergy or asthma symptoms or breathing difficulties if inhaled) shall not be present in quantities $\geq 0,010\%$ (≥ 100 ppm) per substance.

Assessment and verification: the applicant shall provide

- a signed declaration of compliance supported by declarations from manufacturers of mixtures, as appropriate, confirming that phosphates have not been included in the product.
- written statements on compliance (concerning phosphonates which are readily biodegradable), including:

- information on the complexing agents in the product (detail information of the type of phosphonates added as ingredients);
- information for the biodegradability of the phosphonates. A spreadsheet for use in calculating aNBO values is available on the EU Ecolabel website.

For aNBO values reference should be done to the DID List. For phosphonates which are not included in the most updated DID list, the relevant information from literature or other sources, or appropriate test results, showing that they are aerobically biodegradable shall be provided as described in Appendix (to be added).

The applicant shall also provide a declaration from the fragrance manufacturer specifying the content of each of the substances in the fragrances which are listed in Annex III of the Regulation (EC) No 1223/2009.

Rationale and discussion

Limiting environmentally harmful substances from the product group of detergents for dishwasher is important, as most ingredients of these products end up in the aquatic environment through sewage treatment systems after use and sometimes they can be released directly to aquatic environment.

The requirement (a) *Specified excluded ingoing substances and mixtures* lists substances of concern, which (due to their properties and related impacts) are undesired in Ecolabel products. Among them there are certainly also substances which are classified or excluded above the concentration of 0.01% by sub-section (b) *Hazardous substances and mixtures* of this criterion. Nevertheless, due e.g. lack of harmonised classification and their potential hazard, it seems reasonable to cover them under this section and exclude completely from the EU Ecolabel products. We are conscious that at this stage overlaps in criteria regarding substances are possible. This will be tackled at the later stage of the process.

The information and grounds that lead to the exclusion of the following substances and substance groups are summarized in Technical Annexe (Section 7.10.1).

Harmonisation with ILDD product group

Where possible, the list of specified excluded ingoing substances should be harmonised between the IIDD and LD product groups. The Commission Statement following the previous revision on of the requirements expressed that the possibility of a closer alignment between the industrial and institutional and consumer criteria should be investigated. As a consequence the substances to be excluded in various product groups will be discussed in a horizontal session in the 1st AHWG meeting.

At present the following substances are proposed to be added to the excluded substances list based on initial feedback and information collected (however, further consideration of the scope if this criterion is needed):

- APEO (alkylphenol ethoxylates) and APD (alkylphenol derivatives) – already included for IIDD, excluded also by Nordic Ecolabelling and Environmental Choice New Zealand
- Hydroxyisohexyl 3-cyclohexene carboxaldehyde (HICC)
- Atranol and Chloroatranol

Current criterion 2b

According to Article 6(6) of the Regulation (EC) No 66/2010 on the EU Ecolabel, the product or any part of it thereof shall not contain substances or mixtures meeting the criteria for classification with the hazard classes or categories in accordance with Regulation (EC) No 1272/2008 specified below nor shall it contain substances referred to in Article 57 of Regulation (EC) No 1907/2006.

List of hazard statements:

GHS Hazard Statement	EU Risk Phrase
H300 Fatal if swallowed	R28
H301 Toxic if swallowed	R25
H304 May be fatal if swallowed and enters airways	R65
H310 Fatal in contact with skin	R27
H311 Toxic in contact with skin	R24
H330 Fatal if inhaled	R23/26
H331 Toxic if inhaled	R23
H340 May cause genetic defects	R46
H341 Suspected of causing genetic defects	R68
H350 May cause cancer	R45
H350i May cause cancer by inhalation	R49
H351 Suspected of causing cancer	R40
H360F May damage fertility	R60
H360D May damage the unborn child	R61
H360FD May damage fertility. May damage the unborn child	R60/61/60-61
H360Fd May damage fertility. Suspected of damaging the unborn child	R60/63
H360Df May damage the unborn child. Suspected of damaging fertility	R61/62
H361f Suspected of damaging fertility	R62
H361d Suspected of damaging the unborn child	R63
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.	R62-63
H362 May cause harm to breast fed children	R64
H370 Causes damage to organs	R39/23/24/25/26/27/28

H371 May cause damage to organs	R68/20/21/22
H372 Causes damage to organs through prolonged or repeated exposure	R48/25/24/23
H373 May cause damage to organs through prolonged or repeated exposure	R48/20/21/22
H400 Very toxic to aquatic life	R50
H410 Very toxic to aquatic life with long-lasting effects	R50-53
H411 Toxic to aquatic life with long-lasting effects	R51-53
H412 Harmful to aquatic life with long-lasting effects	R52-53
H413 May cause long-lasting harmful effects to aquatic life	R5R593
EUH059 Hazardous to the ozone layer	R29
EUH029 Contact with water liberates toxic gas	R29
EUH031 Contact with acids liberates toxic gas	R31
EUH032 Contact with acids liberates very toxic gas	R32
EUH070 Toxic by eye contact	R39-41
Sensitising substances	
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled	R42
H317: May cause allergic skin reaction	R43

This criterion applies to all ingredients present in concentrations ≥ 0.010 %, including preservatives, colouring agents and fragrances.

The use of substances or mixtures which upon processing change their properties (e.g. become no longer bioavailable, undergo chemical modification) in a way that the identified hazard no longer applies are exempted from the above requirement.

Derogations: the following substances or mixtures are specifically exempted from this requirement:

Surfactants in concentrations <25 % in the product	H400 Very toxic to aquatic life	R50
Surfactants in concentrations <25 % in the product(*)	H412 Harmful to aquatic life with long-lasting effects	R52-53
Biocides used for preservation purposes(**)	H410 Very toxic to aquatic life with long lasting effects H411 Toxic to aquatic life with long-lasting effects H412 Harmful to aquatic life with long-lasting effects	R50-53 R51-53 R52-53
Fragrances	H412 Harmful to aquatic life with long-lasting effects	R52-53
Enzymes(***)	H317: May cause allergic skin reaction H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled	R43 R42
NTA as an impurity in MGDA and GLDA(****)	H351 suspected of causing cancer	R40

(*) This derogation is applicable provided that they are ready degradable and anaerobically degradable

(**) Referred to in criterion 2e. This exemption is applicable provided that biocides' bioaccumulation potentials are characterised by $\log K_{ow}$ (\log octanol/water partition coefficient) < 3.0 or an experimentally determined bioconcentration factor (BCF) ≤ 100 .

(***) Including stabilisers and other auxiliary substances in the preparations.

(****) In concentrations lower than 1.0 % in the raw material as long as the total concentration in the final product is lower than 0.10 %.

Assessment and verification: The applicant shall provide the exact formulation of the product to the competent body. The applicant shall also provide a declaration of compliance with this criterion, together with related documentation, such as declarations of compliance signed by the material suppliers and copies of relevant Safety Data Sheets for substances or mixtures.

Proposal for criterion X(b) – "Hazardous substances and mixtures"

According to Article 6(6) of Regulation (EC) No 66/2010, the EU Ecolabel may not be awarded to any product that contains substances meeting criteria for classification with the hazard statements specified in Table 15 in accordance with Regulation (EC) No 1272/2008 of the European Parliament and of the Council or Council Directive 67/548/E or substances referred to in Article 57 of Regulation (EC) No 1907/2006.

The hazard statements in Table 15 generally refer to substances. However, if information on substances cannot be obtained, the classification rules for mixtures apply.

Substances or mixtures which change their properties through processing and thus become no longer bioavailable, or undergo chemical modification in a way that removes the previously identified hazard are exempted from criterion X(b).

Table 15: Hazard statements

GHS Hazard Statement
H300 Fatal if swallowed
H301 Toxic if swallowed
H304 May be fatal if swallowed and enters airways
H310 Fatal in contact with skin
H311 Toxic in contact with skin
H330 Fatal if inhaled
H331 Toxic if inhaled
H340 May cause genetic defects
H341 Suspected of causing genetic defects
H350 May cause cancer
H350i May cause cancer by inhalation
H351 Suspected of causing cancer
H360F May damage fertility
H360D May damage the unborn child
H360FD May damage fertility. May damage the unborn child
H360Fd May damage fertility. Suspected of damaging the unborn child
H360Df May damage the unborn child. Suspected of damaging fertility
H361f Suspected of damaging fertility
H361d Suspected of damaging the unborn child
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
H362 May cause harm to breast fed children
H370 Causes damage to organs
H371 May cause damage to organs
H372 Causes damage to organs through prolonged or repeated exposure
H373 May cause damage to organs through prolonged or repeated exposure
H400 Very toxic to aquatic life
H410 Very toxic to aquatic life with long-lasting effects
H411 Toxic to aquatic life with long-lasting effects
H412 Harmful to aquatic life with long-lasting effects
H413 May cause long-lasting harmful effects to aquatic life
EUH059 Hazardous to the ozone layer
EUH029 Contact with water liberates toxic gas
EUH031 Contact with acids liberates toxic gas
EUH032 Contact with acids liberates very toxic gas
EUH070 Toxic by eye contact
Sensitising substances
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
H317: May cause allergic skin reaction

This criterion applies to all ingredients present in concentrations $\geq 0.01\%$, including preservatives, colouring agents and fragrances.

For consumer dishwasher products, the substances in Table 16 are exempted from the obligation in Article 6(6) of Regulation (EC) No 66/2010 following application of Article 6(7) of the same Regulation.

Table 16: Derogated substances - To be discussed in the 1st AHWG meeting

Derogated substance	H phrases

Assessment and verification: the applicant shall demonstrate compliance with criterion X(b) for any ingoing substance or mixture present at concentrations greater than 0.010% in the product.

A declaration of compliance shall be provided by the applicant supported, where appropriate, by the declarations from producer(s) of the raw materials that none of these ingoing substances and/or mixtures meet the criteria for classification with one or more of hazard statements listed in Table 15 in the form(s) and physical state(s) they are present in the product.

The following technical information related to the form(s) and physical state(s) of the ingoing substances and/or mixtures as present in the product shall be provided to support the declaration of non-classification:

(i) For substances that have not been registered under Regulation (EC) No 1907/2006 and/or which do not yet have a harmonised CLP classification: Information meeting the requirements listed in Annex VII to that Regulation;

(ii) For substances that have been registered under Regulation (EC) No 1907/2006 and which do not meet the requirements for CLP classification: Information based on the REACH registration dossier confirming the non-classified status of the substance;

(iii) For substances that have a harmonised classification or are self-classified: safety data sheets where available. If these are not available or the substance is self-classified then information shall be provided relevant to the substances hazard classification according to Annex II to Regulation (EC) No 1907/2006;

(iv) In the case of mixtures: safety data sheets where available. If these are not available then calculation of the mixture classification shall be provided according to the rules under Regulation (EC) No 1272/2008 together with information relevant to the mixtures hazard classification according to Annex II to Regulation (EC) No 1907/2006.

For substances listed in Annexes IV and V to Regulation (EC) No 1907/2006, which are exempted from registration obligations under point (a) and (b) of Article 2(7) of that Regulation, a declaration to this effect by the applicant shall suffice to comply with criterion 3(b).

A declaration on the presence of ingoing substances that fulfil the derogation conditions shall be provided by the applicant, supported, where appropriate, by declarations from the producer(s) of the raw materials. Where required for the derogation, the applicant shall confirm the concentrations of these ingoing substances in the final product.

Consultation questions

1	Do you have information which could substantiate keeping/removing the current derogations.
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Current criterion 2c

a) Substances listed in accordance with Article 59(1) of Regulation (EC) No 1907/2006

No derogation from the exclusion in Article 6(6) shall be given concerning substances identified as substances of very high concern and included in the list foreseen in Article 59 of Regulation (EC) No 1907/2006 present in mixtures in concentrations higher than 0.010 %.

Assessment and verification: The list of substances identified as substances of very high concern and included in the candidate list in accordance with Article 59 of Regulation (EC) No 1907/2006 can be found here: http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp

Reference to the list shall be made on the date of application. The applicant shall provide the exact formulation of the product to the competent body. The applicant shall also provide a declaration of compliance with this criterion, together with related documentation, such as declarations of compliance signed by the material suppliers and copies of relevant Safety Data Sheets for substances or mixtures.

Proposal for criterion X(c) – "Ingoing substances listed in accordance with Article 59(1) of Regulation (EC) No 1907/2006"

No derogation from the exclusion in Article 6(6) of Regulation (EC) No 66/2010 shall be given concerning ingoing substances identified as substances of very high concern and included in the list provided for in Article 59(1) of Regulation (EC) No 1907/2006³⁴, present in the product in concentrations higher than 0,010 % (weight by weight).

Assessment and verification: *reference to the list of substances identified as substances of very high concern shall be made on the date of application. The applicant shall provide the full formulation of the product to the competent body. The applicant shall also provide a declaration of compliance with criterion X(c), together with related documentation, such as declarations of compliance signed by the material suppliers and copies of relevant safety data sheets for substances or mixtures.*

Rationale and discussion

No content-wise changes are proposed. The text is proposed to be aligned with that of the corresponding criterion in the ROC criteria.

³⁴

http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp

Current criterion 2d

(d) Specified limited ingredients – fragrances

Any ingredients added to the product as a fragrance shall be manufactured and handled following the code of practice of the International Fragrance Association (IFRA). The code can be found on IFRA website: <http://www.ifraorg.org>.

The recommendations of the IFRA Standards concerning prohibition, restricted use and specified purity criteria for materials shall be followed by the manufacturer.

Fragrance substances subject to the declaration requirement provided for in Regulation (EC) No 648/2004 of the European Parliament and of the Council on detergents (Annex VII) and which are not already excluded by criterion 2b and (other) fragrance substances classified H317/R43 (May cause allergic skin reaction) and/or H334/R42 (May cause allergy or asthma symptoms or breathing difficulties if inhaled) shall not be present in quantities $\geq 0.010\%$ (≥ 100 ppm) per substance.

Assessment and verification: The applicant shall provide a signed declaration of compliance indicating the amount of fragrances in the product. The applicant shall also provide a declaration from the fragrance manufacturer specifying the content of each of the substances in the fragrances which are listed in Annex III, Part I to Council Directive 76/768/EEC as well as the content of (other) substances which have been assigned the risk phrases H317/R43 and/or H334/R42.

Proposal for criterion X(d) – "Fragrances"

Any ingoing substance or mixture added to the product as a fragrance shall be manufactured and handled following the code of practice of the International Fragrance Association (IFRA). The code can be found on the IFRA website: <http://www.ifraorg.org>. The recommendations of the IFRA Standards concerning prohibition, restricted use and specified purity criteria for materials shall be followed by the manufacturer.

Assessment and verification: *the applicant shall provide a signed declaration of compliance, supported by a declaration of the fragrance manufacturer, as appropriate.*

Rationale and discussion

Background information on the criterion for fragrances is given in the Technical Annex (Section 7.10.2.3).

No content-wise change is proposed to this criterion. The exclusion of specific fragrances (Hydroxyisohexyl 3-cyclohexene carboxaldehyde (HICC), Atranol and Chloroatranol) was added to the requirements on fragrances but included in the sub-criterion (a) on Specified excluded ingoing substances and mixtures.

Furthermore, the reference to the Directive 76/768/EEC (Cosmetics Directive) was changed to Regulation (EC) No 1223/2009 (Cosmetic Regulation).

Current criterion 2e - Biocides

(i) The product may only include biocides in order to preserve the product, and in the appropriate dosage for this purpose alone. This does not refer to surfactants, which may also have biocidal properties.

Assessment and verification: the applicant shall provide copies of the material safety data sheets of any preservatives added, together with information on their exact concentration in the product. The manufacturer or supplier of the preservatives shall provide information on the dosage necessary to preserve the product (e.g. results of a challenge test or equivalent).

(ii) It is prohibited to claim or suggest on the packaging or by any other communication that the product has an antimicrobial action.

Assessment and verification: The applicant shall provide texts and layouts used on each type of packaging and/or an example of each different type of packaging to the competent body.

Proposal for criterion X(e) – "Preservatives"

(i) The product may contain preservatives provided that they are not bioaccumulating. A preservative is not considered bioaccumulating if $BCF < 100$ or $\log Pow < 3,0$. If both BCF and $\log K_{ow}$ values are available, the highest measured BCF value shall be used.

(ii) Preservatives in the product shall not release or degrade to substances that are classified in accordance with the requirements of criterion x(b) Hazardous substances and mixtures.

(iii) It is prohibited to claim or suggest on the packaging or by any other communication that the product has an antimicrobial action.

Assessment and verification: the applicant shall provide a signed declaration of compliance, together with copies of the safety data sheets of any preservative added, and information on its BCF and/or $\log K_{ow}$ values. The applicant shall provide also artwork of the packaging.

Rationale and discussion

Biocides are used in detergent products for preservation purposes. They prevent the product from spoiling during storage by preventing the growth of microorganisms. However, the use of biocides in detergent products is a cause for concern; they are highly toxic to aquatic organisms and can also produce hypersensitivity and allergies (for background information see the Technical Annexe (Section 7.10.5)).

In this revision the following changes are proposed:

- The name of sub-criterion is proposed to be changed to 'Preservatives'.
- The statement "Product may only include biocides in order to preserve the product, and in the appropriate dosage for this purpose alone. This does not refer to surfactants, which may also have biocidal properties" is proposed to be removed as CBs mentioned in the ROC criteria development process that they cannot verify the compliance with this requirement and it should be removed.
- A requirement that biocides included in the product shall not be bioaccumulating is proposed to be added to further harmonise the criteria of the six different detergent and cleaning product groups. Some EU Ecolabel criteria (i.e., for the IILD, IIDD and ROC), as well as Nordic Swan criteria for dishwasher detergents have a requirement that preservatives may only be used if they are not bioaccumulating. The motivation behind this requirement is that substances that bioaccumulate collect in the fat tissues of living organisms and can cause long-lasting damage.
- Finally, in the recent criteria developments it was pointed out that sometimes preservatives may release or degrade to substances that are even more hazardous than the preservatives used. Therefore an additional requirement is proposed for consideration: *Preservatives in the product shall not release or degrade to substances*

that classified in accordance with the requirements of criterion X(b) Hazardous substances and mixtures.

Proposal for criterion X(f) – Colorants **NEW REQUIREMENT**

Colorants in the product must not be bioaccumulating. A colorant is considered not bioaccumulating if $BCF < 100$ or $\log P_{ow} < 3.0$. If both BCF and $\log K_{ow}$ values are available, the highest measured BCF value shall be used. In the case of colouring agents approved for use in food, it is not necessary to submit documentation of bioaccumulation potential.

Assessment and verification: the applicant shall provide copies of the safety data sheets of any colorant added together with information on its BCF and/or $\log K_{ow}$ value, or documentation to ensure that the colouring agent is approved for use in food.

Rationale and discussion

The inclusion of this criterion is proposed in order to harmonise the different criteria sets.
For more information on colorants see the Technical Annexe (Section 7.10.6).

Proposal for criterion X(g) – Enzymes **NEW REQUIREMENT**

Enzymes must be in liquid form or dust-free granulate. Enzymes must be free from micro-organism remnants from manufacture.

Assessment and verification: the applicant shall provide copies of the material safety data sheets of any enzyme added, together with documentation to ensure that the enzyme is free from micro-organism remnants.

Rationale and discussion

The inclusion of this criterion is proposed in order to harmonise the different criteria sets.
For more information on colorants see the Technical Annexe (Section 7.10.2.4).

Proposal for criterion X(h) – Phosphorus content

The total quantity of phosphorus compounds must not exceed

- 0,20 Pg/wash for dishwasher detergents and
- 0,03 Pg/wash rinsing agents

Assessment and verification: The applicant shall provide written statements on compliance (concerning the total amount of phosphorus), including:

- information on the complexing agents in the product (detail information of the type of phosphorus-content substances added as ingredients);
- information on the recommended dose for different levels of soiling or water hardness (when applicable);
- calculation of the product's total P-content

Phosphorus compounds: phosphates, phosphonates and phosphorus content

Phosphates and phosphonates are widely used as complexing agents in dishwasher detergents for private and professional uses, however there is evidence that there are alternative dishwasher detergents available on the shelves without phosphorus compounds. Further information about the environmental impacts and alternatives can be found in the accompanying Technical Annexe (Section 7.10.1.1).

The current EU Ecolabel for dishwasher detergents entirely prohibits phosphates for consumer dishwasher detergents and restricts its use for professional use. The Nordic labelling³⁵ has instead chosen to restrict the quantity of phosphorus in the products. The limit of 0,2g/wash means that phosphates cannot be used as the main complexing agent, as much more phosphate is required for that than the limit permits. The limit of 0,20 Pg/wash means that a maximum dose of 20g/wash may contain around 0,79 Pg phosphate/wash or approximately 0,96 Pg/wash (or combination of two). The limit of 0,2 Pg/wash is tougher than the limit of 0,30 Pg/wash that will come into force under the Detergent Regulation in 2017. The toughest restrictions in the use of phosphorus content comparing the schemes under study are set in the Good Environmental Choice label and in the Australian scheme. It does not allow the intentional addition of any chemical that contains phosphorus and even restricts the presence of phosphorus as impurity.

The restrictions on phosphates are already in the national legislation of several member states. Swedish legislation prohibiting phosphates in dishwasher detergents permits 0,5% phosphorus in products, which equates to around 0,1 Pg/wash for a dose of 20g/wash and it is thus tougher than these requirements. Norwegian legislation also has a limit for phosphorus of 3,8%wt.

In the revised EU Ecolabel criteria, it is proposed to keep the ban for phosphates as there are already products on the market that comply with this requirement. A list of several products and their phosphate-content is reported in Table 19 (Data from 2005)³⁶ and it has been reported that, for example, phosphate-free automatic dishwasher detergents represented 69% of the Swedish market in 2009³⁷

Table 19: Selected dishwasher detergents on the market and their phosphate-content

Dishwasher Detergent	Phosphate-content	Dishwasher Detergent	Phosphate-content
Bi-O-Kleen	0%	Electra-Sol Gel	4.9%
Citra-Dish	0%	Sunlight Powder	5.6%
EcoVer	0%	Electra-Sol Powder	6.1%
Mrs. Meyers	0%	Spot-Free Powder (Wal-Mart)	7.0%
Seventh Generation	0%	Stop N Shop Powder (Lemon)	7.5%
Shaklee	0%	Stop N Shop Powder (Regular)	7.5%
Palmolive Gel	1.6%	Cascade Complete Powder	7.7%
Cascade Complete: Liquid	4.0%	Cascade Complete Tablets	8.5%
Cascade Complete: Gel	4.0%	Sunlight Tablets	8.7%
Sunlight Gel	4.3%	Electra-Sol Tablets	8.7%
Cascade Pure Rinse	4.4%	Palmolive	8.7%

Rinsing agents are restricted separately other national schemes such as the Nordic Swan. The limit for rinsing agents is set at 0,1 Pg/wash without any further requirement on phosphates or phosphonates. The current EU Ecolabel, however, does not include any additional restriction for this type of agents.

During the stakeholders consultation³⁸ some of them called for exclusion for phosphonates from this product group, although another stakeholder claimed that the cleaning ability and quality of dishwasher detergents which are free of phosphonates is not so good. Considering

³⁵ Dishwasher detergents and rinsing agents, version 6.0 Background to ecolabelling, 17 September 2013 available at <http://susproc.jrc.ec.europa.eu/detergents/stakeholders.html>

³⁶ http://www.lcbp.org/wp-content/uploads/2013/03/P-free_detergents.pdf

³⁷ http://www.kemi.se/Documents/Publikationer/Trycksaker/Faktablad/QandA_Phosphates_in_Detergents.pdf

³⁸ Preliminary report for the revision of European ecological criteria: consumer and industrial and institutional dishwasher detergents, section 2.8.3

the environmental impacts caused by these types of chemicals as well as the presence on the market of alternatives, it is proposed that the ban for phosphates remains and two new restrictions are instated:

- a) a ban on phosphonates that are not aerobically biodegradable and
- b) a limit for total phosphorus content to also limit the total amount of phosphonate content.

Table 20: Comparison of the phosphorus content restrictions in selected mandatory and voluntary schemes and the proposal for the revised EU Ecolabel criterion

Scheme	Phosphorus related criterion	
Detergent Regulation	Shall not be placed on the market if the total content of phosphorus is equal to or greater than 0.3g in the standard dosage as defined in section B of Annex VII	
Swedish regulation	The total content of phosphorus shall not be greater than 0.5% wt of the product, (approx. 0.1g/wash)	
Norwegian regulation	The total content of phosphorus shall not be greater than 3.8% wt of the product, (approx. 0.76g/wash)	
Nordic labelling	The total content of phosphorus in the product must not exceed:	
	Product type	P (g/wash)
	Dishwasher detergents	0.20
	Rinsing agents	0.03
Env. Choice NZ	The product must not contain more than 0.2 g phosphonates which are not readily biodegradable (aerobically) per wash.	
EU Ecolabel	Phosphates shall not be included in the product, neither as part of the formulation nor as part of any mixture included in the formulation	
Good Env. Choice	Ingredients that contain phosphorus must not be added to the product intentionally.	
Good env choice AU	The product must not be manufactured using any phosphorus compounds. Trace amounts of phosphorus must not exceed 0.05% w/w excluding water.	
Singapore Green Labelling	The total phosphorus content shall not exceed 0.5 %.	
	The pH value of the detergent shall be < 11.	

Consultation questions	
1	Do you agree with the proposed approach?
2	Are exclusions required for other substances?

3.8.5 Criterion 3: Toxicity to aquatic organisms: Critical dilution volume

Current criterion 3

The critical dilution volume (CDV_{chronic}) of the product must not exceed the following limits for CDV_{chronic}:

Product type	Limit CDV _{chronic}
Single-functional dishwasher detergents	25 000 l/wash
Multi-function dishwasher detergents	30 000 l/wash
Rinse aid	10 000 l/wash

Preservatives, colouring agents and fragrances present in the product shall also be included in the CDV calculation even if the concentration is lower than 0.010 % (100 ppm)

[Formula for CDV_{chronic} calculation removed to limit length]

Assessment and verification: Calculation of the CDV_{chronic} of the product. A spreadsheet for calculation of the CDV value is available on the EU Ecolabel website.

The values of the DF and TF parameters shall be as given in the Detergent Ingredient Database list (DID list). If the substance is not found on the DID list, the parameters shall be calculated using the guidelines in Part B of the DID list and attaching the associated documentation.

Proposed criterion 3 – "Toxicity to aquatic organisms"

The critical dilution volume (CDV) of the product must not exceed the following limits for the reference dosage:

Product type	Limit CDV
Single-function dishwasher detergents	20 000 l/wash
Multi-function dishwasher detergents	25 000 l/wash
Rinse aid	7 500 l/wash

Assessment and verification: Calculation of the CDV of the product. A spreadsheet for calculation of the CDV value is available on the EU Ecolabel website.

The Critical Dilution Volume (CDV) is calculated for all ingoing substances and mixtures (i) in the product using the following equation:

$$CDV = \sum CDV(i) = 1000 \cdot \sum dosage(i) \cdot \frac{DF(i)}{TF(i)}$$

Where:

dosage(i): weight (g) of the substance or mixture *i* in the reference dose,

DF(i): degradation factor for the substance or mixture *i*

TF(i): toxicity factor for the substance or mixture *i*

The values of *DF(i)* and *TF(i)* shall be as given in the DID list Part A (Appendix I). If a substance or mixture is not included in the DID list Part A, the applicant shall estimate the values follow the approach described in the DID list Part B (Appendix I).

Rationale and discussion

Detergents have great potential to cause disturbances in aquatic ecosystems as they cause chemical emissions to water during their entire life cycle. For this reason, EU Ecolabels limit the amount of emissions due to EU Ecolabel products. Critical Dilution Volume (CDV) is used in the current EU Ecolabels related to detergents to assess toxicity to aquatic organisms. It is proposed to keep this assessment method in this revision. Further description of CDV and discussion of other assessment methods can be found in the Technical Annexe (Section 7.8.3).

To align with the other EU Ecolabels related to detergents, it is proposed to shorten the criterion's name to "toxicity to aquatic organisms".

In order to revise the CDV limits for the different products covered by this EU Ecolabel on detergents for dishwashers, stakeholders (including competent bodies) were contacted and asked to provide information on CDV values of products on the market. A total of 22 CDV values were received, including 3 values for rinse aids (Table 21, full data details in Appendix I below), that have applied to be awarded the EU Ecolabel for detergents for dishwashers or other similar ecolabels.

Table 21: CDV ranges for dishwasher detergent product types (rounded to the closest 100)

	No.	CDV (l/wash)			Current Limit (l/wash)	Proposed Limit (l/wash)
		Min	Max	Average		
Single-function dishwasher detergents	8	6 500	24 700	16 300	25 000	20 000
Multi-function dishwasher detergents	11	12 800	27 400	19 400	30 000	24 000
Rinse aid	3	4 530	5 800	5 300	10 000	7 500

While the data sets are limited, it can be observed that the average CDV values recorded are considerably lower than the current CDV limits, although in the case of single function detergents the disparities between values are high (standard deviation of 6 800) and two values are very close to the current limit.

Based on this data, lower CDV limits are proposed as indicated in Table 21 - these represent a 20% decrease for dishwasher detergents and a 25% decrease for rinse aids. It should be noted that with these new values, three currently ecolabelled (either EU Ecolabel or other) would not satisfy the requirement, which is a significant number when the data set only contains 8 data.

Finally, it should also be noted that the latest revision of corresponding Nordic Swan criteria has been focused on the requirements for packaging and energy use³⁹ and the CDV limits have been left high. The current EU Ecolabel revision also proposes to tackle the issue of energy use through the fitness for use criterion but also to reduce CDV limits in order to limit the chemical load of waste waters.

Consultation questions

1	Do you agree that the proposed CDV limits or should they be kept as they are in the current criteria?
---	---

³⁹ About Nordic Ecolabelled, Dishwasher detergents and Rinsing agents, Version 6.0, Background to ecolabelling 17 september 2013 Draft for consultation available at: http://www.svanemarket.no/PageFiles/10314/Maskinoppv_E_bkg_v6.pdf

3.8.6 Criterion 4: Biodegradability of organics

Current criterion 4

The content of organic substances in the product that are aerobically non-biodegradable (not readily biodegradable aNBO) or anaerobically non-biodegradable (anNBO) shall not exceed the following limits:

Product type	aNBO	anNBO
Dishwasher detergents	1.0 g/wash	5.50 g/wash
Rinse aid	0.15 g/wash	0.50 g/wash

Assessment and verification: Calculation of aNBO and anNBO for the product. A spreadsheet for use in calculating aNBO and anNBO values is available at the EU Ecolabel website.

Refer to the DID list. For ingredients which are not included in the DID list, the relevant information from literature or other sources, or appropriate test results, showing that they are aerobically and anaerobically biodegradable shall be provided. See Appendix I.

Note that TAED should be considered anaerobically biodegradable.

Proposed criterion 4 – "Biodegradability"

a) Biodegradability of surfactants

[To be discussed at the 1st AHWG meeting.](#)

All surfactants shall be biodegradable under aerobic conditions.

All surfactants shall be biodegradable under anaerobic conditions.

b) Biodegradability of organic substances and mixtures

[To be discussed at the 1st AHWG meeting.](#)

The content of organic substances and mixtures in the product that are aerobically non-biodegradable (not readily biodegradable aNBO) or anaerobically non-biodegradable (anNBO) shall not exceed the following limits for the reference dosage:

Product type	aNBO	anNBO
Dishwasher detergents	1,0 g/wash	5,50 g/wash
Rinse aids	0,15 g/wash	0,50 g/wash

Assessment and verification: The applicant shall provide documentation for the degradability of surfactants, as well as the calculations of aNBO and anNBO for the product. A spreadsheet for use in calculating aNBO and anNBO values is available on the EU Ecolabel website.

For both surfactants and aNBO and anNBO values, reference shall be made to the DID List. For ingredients which are not included in the DID List, the relevant information from literature or other sources, or appropriate test results, showing that they are aerobically and anaerobically biodegradable shall be provided as described in Appendix I.

In the absence of documentation in accordance with the above requirements, an ingoing substances and mixtures other than a surfactant may be exempted from the requirement for anaerobic degradability if one of the following three alternatives is fulfilled:

1. Readily degradable and has low adsorption ($A < 25\%$);
2. Readily degradable and has high desorption ($D > 75\%$);
3. Readily degradable and non-bioaccumulating.

Testing for adsorption/desorption may be conducted in accordance with OECD guidelines 106.

Rationale and discussion

In the current EU Ecolabel criteria for dishwasher detergents only the biodegradability of organic substances is considered. Nevertheless, dishwasher detergents contain large number of surfactants, some of which are not readily biodegradable (aerobically, aNBO) or not anaerobically degradable (anNBO).

As explained in the Technical Annexe (Section 7.9.1), the use of non-biodegradable (aNBO, anNBO) ingredients should be limited as substances which do not degrade rapidly in the environment have the potential to exert toxicity. A limitation (i.e. having maximum concentrations) allows for flexibility with formulations whilst reducing the risk to the environment.

As six EU Ecolabels related to detergents are being revised at the same time and as these products often have similar formulations, it is judicious to consider the harmonisation of their criteria. In the case of biodegradability, the current six EU Ecolabel criteria approach the subject using three different approaches and stakeholder consultation has yielded a multitude of opinions. It has thus been decided that a discussion during the 1st AHWG meeting will be conducted. As a starting point for the harmonised approach the criterion included in the most recently voted criteria for industrial and institutional products (laundry and dishwasher detergents) is proposed. It requires aerobic and anaerobic degradability of surfactants and limits the amount of non-aerobically and non-anaerobically degradable organics. Specific issues related to single product groups should be then taken into account (for instance in the case of IILD only non-ionic and cationic surfactants have to be anaerobically degradable, while anionic surfactants were exempted from this requirement). At present the values for aNBO and anNBO of the products are collected. This exercise will help evaluating the validity of the current thresholds. The criterion on biodegradability will be revised following discussions with stakeholders.

Consultation questions	
1	Is the proposed approach to biodegradability suitable for consumer dishwasher detergents?
2	What would be the appropriate limits for aNBO and anNBO? Could stakeholders please share with the project team data on the amount of aNBO and anNBO organic substances and mixtures in the product groups covered?

3.8.7 Criterion 5: Washing performance (fitness for use)

Current criterion 5

The product shall have a satisfactory washing performance at the recommended dosage according to the standard test developed by IKW or the standard EN 50242 as modified as follows:

The tests shall be carried out at 55 °C or at a lower temperature if the product claims to be efficient at this temperature.

When applying for rinse aids in combination with dishwasher detergents, the rinse aid shall be used in the test instead of the reference rinse aid.

For multifunctional products the applicant must submit documentation proving the effect of the claimed functions.

Assessment and verification: The test report shall be submitted to the Competent Body. A test other than the IKW test or the modified version of EN 50242 may be used if the Competent Body assessing the application accepts its equivalence.

If EN 50242:2008 is used the following modifications shall apply:

- the tests shall be carried out at 55 °C ± 2 °C (or at a lower temperature if the detergent claims to be efficient at a temperature below 55 °C) with cold pre-wash without detergent
- the machine used in the test shall be connected to cold water and must hold 12 place settings with a washing index of between 3.35 and 3.75
- the machine's drying programme shall be used, but only the cleanliness of the dishes shall be assessed
 - a weak acidic rinsing agent in accordance with the standard (formula III) shall be used
 - the rinsing agent setting shall be between 2 and 3
 - the dosage of dishwasher detergent shall be as recommended by the manufacturer
 - three attempts shall be carried out at a water hardness in accordance with the standard
- an attempt consists of five washes where the result is read after the fifth wash without the dishes being cleaned between the washes
 - the result shall be better than or identical to the reference detergent after the fifth wash
 - recipe for the reference detergent (Detergent B IEC 436) and rinsing agent (formula III), see Appendix B in the standard EN 50242:2008 (the surfactants are to be stored in a cool place in watertight containers not exceeding 1 kg and are to be used within 3 months).

If rinse aid and salt functions are a part of a multifunctional product the effect must be documented by test.

The applicant must be able to document the effect of other functions in multifunctional detergents.

Proposed criterion 5 – Fitness for use

Tests shall be carried out to ensure that the product has a satisfactory wash performance at the lowest recommended dosage for the water hardness according to [most updated IKW standard](http://www.ikw.org/fileadmin/content/downloads/Haushaltspflege/HP_DishwasherA_B_e.pdf) available at http://www.ikw.org/fileadmin/content/downloads/Haushaltspflege/HP_DishwasherA_B_e.pdf or the modified standard EN 50242:2008

The tests shall be carried out at [50C water](#) temperature or at the lowest temperature the product claims to be effective at. When applying for rinse aids in combination with dishwasher detergents, the rinse aid shall be used in the test instead of the reference rinse aid.

For multifunctional products the applicant must submit documentation proving the effect of the claimed functions.

The test shall be performed by a laboratory complying with Appendix (to be added)

Assessment and verification: The applicant shall provide documentation confirming that the product has been tested under the standard conditions. Information should be provided on:

- (a) Type of spots that are representative for the kind of soiled expected in the areas where the products will be marketed.
- (b) Information on the recommended dosage at the corresponding water hardness and the lowest

-
- recommended wash temperature at which the product claims to be effective
- (c) The product's ability to remove soiling from the surfaces or materials and the effectiveness of other products the detergent shall be used with (eg. rinse aids)
 - (d) Information about the reference product against which the test product has been tested: market leadership, lowest commended dosage or dosage used (if no information is provided) and temperature, date of purchase and date of testing.
 - (e) Documentation confirming the compliance within the laboratory requirements included in Appendix (to be added)

If EN 50242:2008 is used the following modifications shall apply:

- the tests shall be carried out at $50\text{ °C} \pm 2\text{ °C}$ (or at a lower temperature if the detergent claims to be efficient at a temperature below 50 °C) with cold pre-wash without detergent
- the machine used in the test shall be connected to cold water and must hold 12 place settings with a washing index of between 3.35 and 3.75
- the machine's drying programme shall be used, but only the cleanliness of the dishes shall be assessed
- a weak acidic rinsing agent in accordance with the standard (formula III) shall be used,
- the rinsing agent setting shall be between 2 and 3
- the dosage of dishwasher detergent shall be as recommended by the manufacturer
- three attempts shall be carried out at a water hardness in accordance with the standard
- an attempt consists of five washes where the result is read after the fifth wash without the dishes being cleaned between the washes
- the result shall be better than or identical to the reference detergent after the fifth wash
- recipe for the reference detergent (Detergent B IEC 436) and rinsing agent (formula III), see Appendix B in the standard EN 50242:2008 (the surfactants are to be stored in a cool place in watertight containers not exceeding 1 kg and are to be used within 3 months).

If rinse aid and salt functions are a part of a multifunctional product the effect must be documented by test.

The applicant must be able to document the effect of other functions in multifunctional detergents.

Rationale and discussion

Satisfactory fitness for use of hand dishwasher detergents ensures that the maximum performance of the product is achieved while getting a minimum environmental impact. Further information about the most important parameters that influence the washing performance are included in the Technical Annexe (Section 7.12.1).

A comparison of the test protocols used by various ecolabels is provided in Table 22. The national schemes propose to use either IKW standard (with amendments) or the EN 50242 with some modifications.

Table 22: Comparison of washing performance tests of various ecolabels

Scheme	Requirement
Nordic Swan	Cleaning performance is to be tested in accordance with the standard test for dishwasher detergents developed by IKW, with the following amendments: <ul style="list-style-type: none"> •wash temperature 50 °C for the test product and 55 °C for the reference •water hardness 6 °dH •reference detergent IEC-D or IEC-B is to be used at a dose of 20 g •reference rinsing agent (formula III) at dose setting of between 2 and 3
Env. Choice NZ	The product shall be fit for its intended use and conform, as appropriate, to relevant product performance standards. Product performance with respect to both cleaning ability (ability to remove soil) and cleaning performance (the total amount of soil removed per wash) must be assessed.
Green Seal	Requires only a test 'using an objective, scientifically-validated method conducted under controlled and reproducible laboratory conditions' and in comparison to a market-leading product.
Good Environmental Choice Australia	'Test reports showing the product to be equal to or better than a reference detergent [defined elsewhere]... after the fifth wash cycle, based on EN 50242 conducted with the following modifications, or equivalent: <ul style="list-style-type: none"> - Tests shall be performed at 50 ± 2°C, with a cold prewash without detergent; - The machine used for testing shall be a 12 place setting machine with a 5 star or higher WELS rating; - The machine's drying program shall be used but only the cleanliness of the dishes assessed; - A mildly acidic rinsing agent according to the standard (formulation III) shall be used; - The rinsing agent setting shall be set to 2 or 3; - The manufacturer's recommended dosage shall be used during testing; and - Three trials shall be performed at the water hardness stated in the standard. One trial shall comprise five wash cycles with the results assessed after the fifth cycle without cleaning between cycles
EU Ecolabel	Tests shall be carried out to ensure that the product has a satisfactory wash performance at the recommended dosage according to the standard test developed by IKW or the modified standard EN 50242 (at 55 C or lower in manufacturer claims effectiveness at that temperature).

Both testing methods are proposed to be used in the EU Ecolabel for fitness for use criterion. As the IKW is actually under revision and therefore a claim of using the most updated IKW standard version has been included. Additionally, it was identified that some modifications to the EN 50242:2008 test method are needed because this method refers to powder detergent. Further input is requested in order to locate a suitable liquid reference detergent for this test method.

Lower temperature is included in the modification of the EN 50242:2008 test method since better performance has been achieved in the last years by the detergents and dishwashers. This lower temperature is also in line with other national schemes revisions.

Consultation questions	
1	Are any other changes required for this criterion?
2	Should IKW be the only test allowed for this product group?
3	Stakeholders are invited to indicate a suitable reference detergent for the EN test method and a possible modification to include the use of liquid detergents?

3.8.8 Criterion 6: Packaging requirements

Current criterion 6

c) Primary packaging per functional unit:

Primary packaging shall not exceed 2.0 grams per wash.

d) Cardboard packaging:

Cardboard packaging shall consist of $\geq 80\%$ recycled material.

e) Labelling of plastic packaging:

To allow for identification of different parts of the packaging for recycling, plastic parts in the primary packaging must be marked in accordance with DIN 6120, Part 2 or the equivalent. Caps and pumps are exempted from this requirement.

f) Plastic packaging:

Only phthalates that at the time of application have been risk assessed and have not been classified according to criterion 2(b) may be used in the plastic packaging.

Assessment and verification: The applicant shall provide the calculation of the quantity of primary packaging and a declaration regarding the percentage of recycled material in cardboard packaging to the competent body. The applicant shall provide completed and signed declaration of compliance with 6d.

Proposed criterion 6 - Packaging

a) Weight/utility ratio (WUR)

The weight/utility ratio (WUR) of the product shall be calculated for the primary packaging only and shall not exceed the following values for the reference dosage:

Product type	WUR
Dishwasher detergents	2,4 g
Rinse aids	1,5 g

Are exempted from this requirement:

- Plastic/paper/cardboard packaging containing more than 80 % recycled materials,
- Paper/cardboard packaging that comes 80% from certified sustainable sources,
- Plastic packaging containing more than 80 % plastic from sustainable sources.

Assessment and verification: the applicant shall provide the calculation of the WUR of the product. A spreadsheet for this calculation is available on the EU Ecolabel website. If the product is sold in different packaging (i.e. with different volumes), the calculation shall be submitted for each packaging size for which the EU Ecolabel shall be awarded.

The applicant shall provide a completed and signed declaration for the content of recycled material in the packaging.

- For paper and cardboard, packaging is regarded as recycled if the raw material used to make the packaging has been collected from packaging manufacturers at the distribution stage or at the consumer stage. Where the raw material is industrial waste from the material manufacturer's own production process, then the material will not be regarded as recycled.

- For plastic, packaging is regarded as recycled if the raw material used to make the packaging comes from industrial waste or has been collected from packaging manufacturer at the distribution or at the consumer stage.

The applicant shall provide a completed and signed declaration for the content of sustainably sourced material in the packaging. For paper and cardboard, the applicant shall provide TBD. For plastic, the applicant shall provide TBD.

The WUR is calculated as follows:

$$WUR = \sum ((W_i + U_i) / (D_i * R_i))$$

Where:

Wi: weight (g) of the primary packaging (i),

Ui: weight (g) of non-recycled and non-sustainably sourced packaging in the primary packaging (i). Ui = Wi unless the applicant can document otherwise,

Di: number of reference doses contained in the primary packaging (i),

Ri: number of times that the primary packaging (i) can be refilled and used for the same purpose. Ri = 1 (packaging is not reused for the same purpose) unless the applicant can document a higher number.

b) Design for recycling

Plastic packaging shall be designed to facilitate effective recycling by avoiding potential contaminants and incompatible materials that are known to impede separation or reprocessing or to reduce the quality of recycle. The label or sleeve, closure and, where applicable, barrier coatings shall not comprise, either singularly or in combination the materials and components listed in Table 17. Pumps are exempted from this requirement.

Table 17: Materials and components excluded from packaging elements

Packaging element	Excluded materials and components ⁴⁰
Label or sleeve	<ul style="list-style-type: none"> - PS label or sleeve in combination material used with a PET, PP or HDPE bottle - PVC label or sleeve in combination with a PET, PP or HDPE bottle - PETG label or sleeve in combination with a PET bottle - Sleeves made of different polymer than the bottle - Labels or sleeves that are metallised or are welded to a packaging body (in mould labelling)
Closure	<ul style="list-style-type: none"> - PS closure in combination a with a PET, HDPE or PP bottle - PVC closure in combination with a PET, PP or HDPE bottle - PETG closures and/or closure material with density of above 1 g/cm³ in combination with a PET bottle - Closures made of metal, glass, EVA - Closures made of silicone. Exempted are silicone closures with a density < 1 g/cm³ in combination with a PET bottle and silicone closures with a density > 1g/cm³ in combination with PEHD or PP bottle - Metallic foils or seals which remain fixed to the bottle or its closure after the product has been opened
Barrier coatings	Polyamide, EVOH, functional polyolefins, metallised and light blocking barriers

Assessment and verification: The applicant shall submit a signed declaration of compliance specifying the material composition of the packaging including the container, label or sleeve, adhesives, closure and barrier coating, and a sample of primary packaging.

Rationale and discussion

From a life cycle perspective, packaging is not the most important environmental impact for consumer detergents for dishwashers but can represent up to 11% of impact contribution for agricultural land occupation when 20% of non-recycled is used in the packaging (Section 4.4 - Preliminary Report), for example. It is therefore proposed that a criterion on packaging is kept present in the EU Ecolabel for detergents for dishwashers.

Further information on the wording of the proposed criterion and background information on packaging can be found in the Technical Annexe (Section 7.11.1).

a) Weight utility ratio

⁴⁰ EVA – Ethylene Vinyl Acetate, EVOH – Ethylene vinyl alcohol, HDPE – High-density polyethylene, PET – Polyethylene terephthalate, PETG – Polyethylene terephthalate glycol-modified, PP – Polypropylene, PS – Polystyrene, PVC – Polyvinylchloride

In the current criteria, the packaging requirement is indicated as a general limit for the amount of packaging that can be used per wash and a minimum requirement for 80% recycled cardboard, if it is used. It is proposed to require the calculation of WUR, as for other EU Ecolabels.

The current limit for packaging is 2g/wash. Considering the calculation of WUR and the fact that a minimum of 80% of recycled cardboard is required, the equivalent WUR value is 2,4g/wash:

Current: $\frac{\text{packaging}}{\# \text{doses}} = 2 \text{ g/wash}$

WUR: $\frac{(\text{packaging} + (1 - \text{recycled content}) \cdot \text{packaging})}{\# \text{doses}} = 2 + 0,2 \cdot 2 = 2,4 \text{ g/wash}$

No specific limits are currently provided for rinse aids. As rinse aids necessitate lower doses than dishwasher detergents, it is proposed to first consider the value of 1,5 g/wash, which is aligned on the value required by Nordic Swan. Further information on this aspect can be found in the Technical Annexe (Section 7.11.3.1).

b) Design for recycling

In line with the EU Ecolabel on Rinse-off cosmetics, it is proposed to remove the requirement on the labelling of plastics parts but instead to promote the recyclability of packaging by avoiding combinations of incompatible materials and potential contaminants.

Further information on this aspect can be found in the Technical Annexe (Section 7.11.3.4).

Consultation questions	
1	Are the WUR limits appropriate?
2	Is the design for recycling requirement suitable for this product group?

3.8.9 Criterion 7: Consumer information

Current criterion 7 – Consumer information

d) Information on the packaging:

The following test (or equivalent) shall appear on or in the product:

'This Ecolabelled detergent works well at low temperatures (*). Select low temperature washing cycle on the dishwasher, wash full loads and do not exceed the recommended dosage. This will minimise both energy and water consumption and reduce water pollution.

(* the applicant shall insert here the recommended temperature or range of temperatures that shall not exceed 55 °C

b) Dosage instructions:

Dosage instructions shall appear on the product packages. The recommended dosages shall be specified for the ranges of water hardness appropriate to where the product is marketed. The instructions shall specify how to make best use of the product according to the soil.

The applicant shall take suitable steps to help the consumer respect the recommended dosage, for example by making available a dosage device (for powdered or liquid products) and/or by indicating the recommended dosage at least in ml (for powdered or liquid products).

c) Information and labelling of ingredients:

The type of enzymes shall be indicated on the packaging.

Assessment and verification: The applicant shall provide a sample of the product label together with a declaration of compliance with each Part (a), (b) and (c) of this criterion.

Proposed criterion 7 – "User information"

The detergent shall be accompanied by instructions for proper use so as to maximise product performance and minimise waste. These instructions shall be legible or include graphical representation or icons and include information on:

a) dosing instructions

The primary packaging shall include information on the recommended dosage for a standard load for at least two levels of soiling. A second well-known metric may be given in brackets. If the packing has an efficient and convenient dosage system that can provide an equally reliable dosage, an alternative metric (e.g. capsules, squirts, or other) can be used. The dosing instructions shall include information on the impact of water hardness on dosing and indicate the most prevalent water hardness in the area where the product is intended to be marketed or where this information can be found. A recommendation of using salt to reduce the water hardness and the amount of detergent needed should be included, if appropriate in the location to be marketed.

b) resource saving measures

An indication on the primary packaging shall encourage users to wash at the lowest appropriate temperature: the applicant shall recommend washing at the lowest temperature the product claims effectiveness, which shall not be higher than 50C.

An indication on the primary packaging shall encourage users to wash full loads.

c) packaging disposal information

The primary packaging shall include information on the reuse, recycling and/or correct disposal of packaging.

d) environmental information (voluntary)

The following text is recommended to appear on the primary packaging but its use is voluntary:

"All detergents have an effect on the environment. Always use the correct dose for maximum effectiveness, the lowest recommended temperature. This will minimize both energy and water consumption and reduce water pollution".

Assessment and verification: The applicant shall provide a sample of the product packaging, including the label.

Rationale and discussion

Information appearing on the packaging provides useful information on how the consumer should use the product most effectively to achieve the best cleaning results whilst minimising the environmental impacts. Further information about the environmental impacts and why these statements were selected can be found in the Technical Annexe (Section 7.13.1).

It is proposed that a recommendation on the use of salt to soften the water and improve the cleaning process should be included on the packaging information. It also ensures that the machine is protected from limescale and brings the EU Ecolabel in line with other ecolabels when considering the product dosage recommendations.

Consultation questions

1	Should a recommendation on the use of salt be included?
2	Is a statement on overdosing required as part of the consumer information criterion?
3	Should information on use of renewable energy be included?
4	Is it appropriate to remove the requirement to report the type of enzyme?
5	Should recycling labels be included on dishwasher detergent packaging?

3.8.10 Criterion 8: Information appearing on the EU Ecolabel

Current criterion 8

Optional label with text box shall contain the following text:

- Reduced impact on aquatic ecosystems
- Limited hazardous substances
- Performance tested

The guidelines for the use of the optional label with text can be found in the 'Guidelines for the use of the Ecolabel logo' on the website: http://ec.europa.eu/environment/ecolabel/promo/logos_en.htm

Assessment and verification: The applicant shall provide a sample of the label.

Proposed criterion 8 – Information appearing on the EU Ecolabel

The logo should be visible and legible. The use of the EU Ecolabel logo is protected in primary EU law. The EU Ecolabel registration/licence number must appear on the product, it must be legible and clearly visible.

The optional label with text box shall contain the following text:

- reduced impact on aquatic ecosystems,
- limited hazardous substances,
- performance tested.

Assessment and verification: The applicant shall provide a sample of the product packaging, including the label.

Rationale and discussion

Information on the label is useful for reinforcing messages that endorse the user's or consumer's choice of this product over non-EU Ecolabel alternatives. The background and rationale behind the selection of these statements are included in the the Technical Annexe (Section 7.14).

Consultation questions

1	Are the proposed statements suitable?
2	Do these statements translate well into other languages?

3.8.11 Criterion NEW - Sustainable sourcing of palm oil, palm kernel oil and their derivatives

Proposed addition

Ingredients used in the product which are derived from palm oil or palm kernel oil must be sourced from plantations that meet the criteria for sustainable management that have been developed by multi-stakeholder organisations who have a broad based membership including NGOs, industry and government.

Assessment and verification: the applicant shall provide third-party certifications that the palm oil used in the manufacturing of the product originates from sustainable managed plantations. Certifications accepted shall include RSPO (by identified preserved, segregates or mass balance) or any equivalent scheme based on multi-stakeholder sustainable management criteria. For chemical derivatives of palm oil it is acceptable to demonstrate sustainability for these through book and claim systems such as GreenPalm or equivalent.

Rationale and discussion

Further information on this criterion can be found in Technical Annexe (Section 7.15).

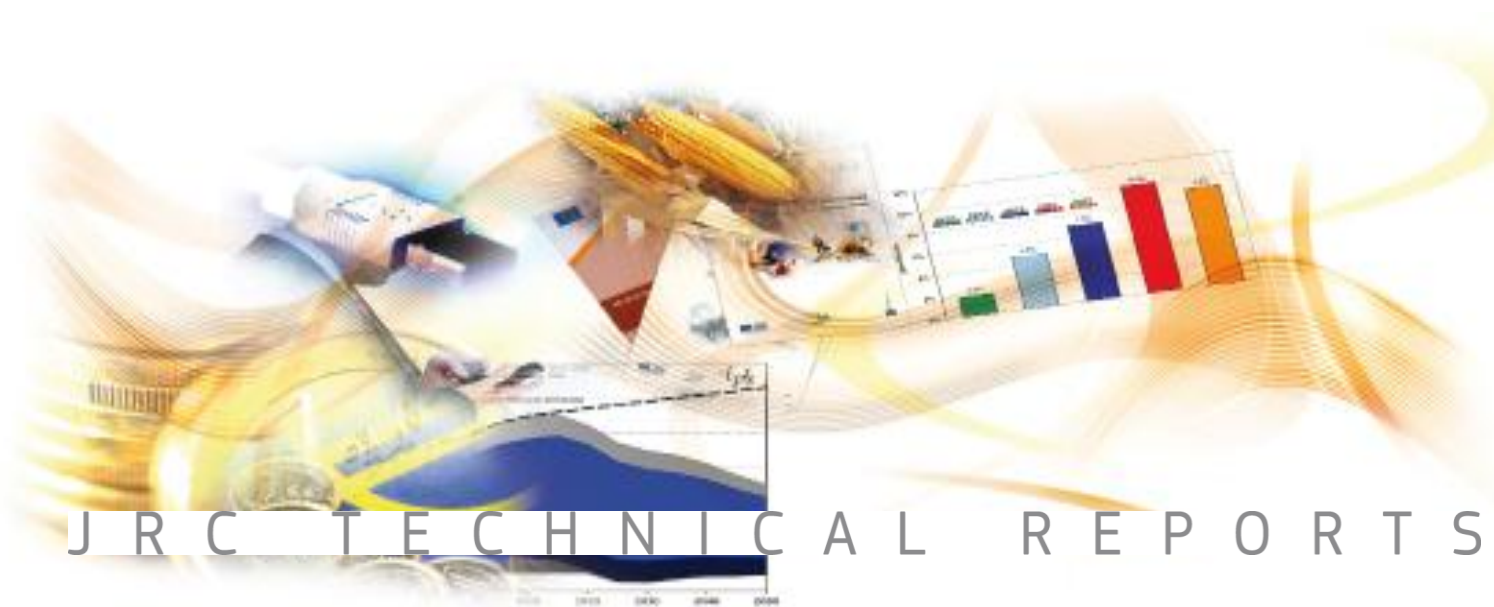
3.9 Appendix

3.9.1 Appendix 1: Analysis of CDV values

Product type	Countries where product is sold	Dosage (g or ml/wash)	CDV value (l/wash)
Dishwasher detergent (unspecified)	Austria	16	23,770
Dishwasher detergent (unspecified)	Austria	19	24,680
Dishwasher detergent - liquid	Spain	20	10,863
Dishwasher detergent - liquid	Spain	20	6,454
Multi-functional (compact with perfume)	France	20	27,367
Multi-functional (compact with perfume)	France	20.35	21,516
Multi-functional (compact with perfume)	Germany	20	12,788
Multi-functional (compact with perfume)	Germany	20.25	23,220
Multi-functional (compact with perfume)	France, Russia, Poland	20	20,018
Single-functional (compact no perfume)	Holland, Iceland	16	10,363
Single-functional (compact no perfume)	Holland, Iceland	16	16,022
Multi-functional (compact no perfume)	England, Germany, France, Spain, Norway, Russia	20.3	17,444
Multi-functional (compact no perfume)	England, Germany, France, Spain, Norway, Russia	20.3	16,963
Multi-functional (compact no perfume)	England, Germany, France, Spain, Norway, Russia	20.4	22,870
Multi-functional (compact no perfume)	England, Germany, France, Spain, Norway, Russia	20.3	16,449
Multi-functional (compact no perfume)	England, Germany, France, Spain, Norway, Russia	20.3	16,364
Multi-functional (compact no perfume)	France	20	18,941
Multi-functional powder	Unknown	18	21,694
Rinse aid	Austria	3.0	5,606
Rinse aid (no perfume)	France	3.6	5,796
Rinse aid	Spain	3.0	4,533



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J R C T E C H N I C A L R E P O R T S

4 INDUSTRIAL AND INSTITUTIONAL AUTOMATIC DISHWASHER DETERGENTS

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4.1 Introduction

The following Technical Report presents a proposal of revised EU Ecolabel criteria for the product group of "industrial and institutional automatic dishwasher detergents" (IIDD). The study has been carried out by the Joint Research Centre's Institute for Prospective Technological Studies (JRC-IPTS) with technical support from Oakdene Hollins and PRÉ Consultants. The work is being developed for the European Commission's Directorate General for the Environment.

The recommendations for the revision of the current criteria are based on technical analysis, including a Life Cycle Assessment (LCA) assessing the environmental impacts of products covered by the scope of the product group and other evidences, and input received from stakeholders.

This document is complemented by the Preliminary Report on the revision of the European Ecolabel criteria for Industrial and Institutional Automatic Dishwasher Detergents⁴¹ and a Technical Annexe. The Preliminary Report covers in detail areas such as: scope and legislative analysis (Task 1), market analysis (Task 2), technical analysis (Task 3) and improvement potential (Task 4). The Technical Annexe is common to all detergent product groups as they share common issues and the revisions of their EU Ecolabel criteria are being done at the same time in order to facilitate harmonisation between criteria, where appropriate.

In all, there are six sets of EU Ecolabel criteria in the detergent product groups. These are:

- laundry detergents (LD),
- industrial and institutional laundry detergents (IILD),
- detergents for dishwashers (DD),
- industrial and institutional automatic dishwasher detergents (IIDD),
- hand dishwashing detergents (HDD),
- all-purpose cleaners and sanitary cleaners (APC).

The present document is specific to the set of criteria related to the EU Ecolabel for Industrial and Institutional automatic Dishwasher Detergents. Its main purpose is to summarise the proposed criteria changes as well as provide a brief overview of background information related to each criterion and the rationale behind the proposal. Where these are common for different EU Ecolabel product groups and/or are due to harmonisation efforts, reference is made to a section of the Technical Annexe. Both documents, as well as the Preliminary Report, should be consulted to gain a full understanding of this revision process.

It should be noted that the EU Ecolabel criteria for detergents for dishwashers (DD) are being revised in parallel. Due to the similarities in criteria, chemical constituents of the products involved and the overlap of stakeholders, a common Preliminary Report has been written. However, a separate Technical Report has been produced for each EU Ecolabel under revision. Nevertheless, as harmonisation of criteria across product groups is within the scope of this work, the rationale and commentary of the Technical Reports frequently compares and contrasts current criteria corresponding to the other detergent products being revised.

A revision of EU Ecolabel criteria must ensure that, based on impacts of the products covered by the EU Ecolabel for "Industrial and Institutional automatic Dishwasher Detergents" at all life-cycle stages:

- The existing criteria are still relevant and that appropriately challenging targets, thresholds or usage information are established based on the latest knowledge of market norms, user behaviours, life-cycle impacts and hazards.
- Any new candidates for criteria suggested by either the LCA or the stakeholder survey are adequately considered and evaluation criteria justified.
- Opportunities to rationalise criteria, i.e. remove, simplify and combine (within the group) or harmonise (between product groups), are examined and justified.

⁴¹ Preliminary report for the revision of European Ecological Criteria: consumer and industrial and institutional automatic dishwasher detergents, available at: <http://susproc.jrc.ec.europa.eu/detergents/stakeholders.html>

The main criteria changes proposed in this report are updates of several criteria values and new values for categories of products that are not covered in the current criteria.

4.2 Preliminary report – summary and links to the revision and/or development of the eu ecolabel criteria

The Preliminary Report presents the research carried out, through stakeholder surveys, market analysis, legal review and an environmental performance investigation, on areas related to the product group covered by the EU Ecolabel on Industrial and Institutional automatic Dishwasher Detergents. The preliminary report is a document that provides the background information and underpins the new criteria proposal for two product groups: Detergents for Dishwashers and Industrial and Institutional automatic Dishwasher Detergents, due to their multiple overlaps.

The main findings of the Preliminary Report are:

- The *legal review* revealed that the EU Detergents Regulation (EU) No 259/2012⁴² will only impact on the consumer automatic dishwasher detergents on the market and not professional products.
- The *market analysis* revealed that the market for dishwasher detergents is primarily intra-EU trade, with five large manufacturers accounting for 65% of the European market. The market for industrial and institutional kitchen and catering detergents (which includes dishwasher detergents) accounted for around €1,500 million in Europe in 2012.
- The *technical analysis* revealed that the key environmental impacts associated with the product group can be summarised as follows:
 - The life cycle stage with the largest contribution to the environmental impact profile of industrial and institutional automatic dishwasher detergents is the use phase, particularly the energy needed to heat the water for the wash cycle. For some impact categories, the sourcing of raw materials is also important.
 - Based on the normalisation assessment the most significant impact categories for dishwasher detergents in Europe are fossil depletion, climate change, human toxicity, particulate matter formation, and natural land transformation.

The results of the LCA for a consumer dishwasher detergent conducted as part of the technical analysis showed that the environmental impacts are strongly correlated to each other via the energy use in the use phase (with the exception of natural land transformation). The use phase dominates the impact categories freshwater eutrophication, human toxicity, and marine ecotoxicity, whereas freshwater ecotoxicity and natural land transformation are dominated by ingredients sourcing. Due to the similarities between the two product groups, the environmental impact profile of the industrial and institutional dishwasher detergents are expected to be very close to that of consumer products.

The key environmental performance indicators (KPIs), i.e. those variables that mainly drive the results for dishwasher detergents in Europe, based on the results of this study are (not ranked):

- Amount of product used per application,
- Choice of and amount of surfactant (although there are trade-offs between impact categories),
- Wash temperature,
- Energy source used to heat the water,
- Emissions to water.

Apart from the LCA analysis, a revision of other scientific evidences, current national schemes and legislation have been performed. These sources of information pointed out the potential presence of hazardous substances in the product that can have environmental and health

⁴² Regulation (EU) No 259/2012 of the European Parliament and of the Council of 14 March 2012 amending Regulation (EC) No 648/2004 as regards the use of phosphates and other phosphorus compounds in consumer laundry detergents and consumer automatic dishwasher detergents, OJEU L 94/16

impacts, and these are addressed according to Articles 6.6 and 6.7 of the Regulation EC/66/2010 on the Ecolabel Regulation⁴³.

This document shows the process and the evidences to draft the EU Ecolabel criteria that tackle the mentioned main environmental impacts identified through the LCA analysis and the non-LCA impacts identified by revising other sources. The EU Ecolabel criteria are developed to directly or indirectly address the identified LCA and non-LCA impacts (eg the choice and amount of surfactants is an environmental impact directly addressed through one or several EU Ecolabel criteria while the amount of detergent is indirectly addressed). The "energy source used to heat the water" is the only environmental impact that cannot be addressed through the EU Ecolabel as it is not directly linked to the products; even when consumers can choose the source of energy to heat the water or an electricity provider with a share of renewable energies, this is something out of the scope of what can be promoted through a product environmental label.

Moreover, even though waste generation was not among the top 5 KPIs named previously, it can still have an impact of up to 11% for some environmental aspects. This environmental impact score can even being higher in the case of window cleaners. Given large amount of products used and the fact that they all come with packaging, a relatively small impact can quickly add up; thus, this aspect is also considered in the EU Ecolabel. Table 23 shows the link between the hotspots identified as LCA and non-LCA impacts in the Preliminary Report and the revised or newly developed EU Ecolabel criteria.

Table 23: Link between the hotspots identified (LCA and non-LCA impacts) and the revised EU Ecolabel criteria

Hotspots	% of total impact ⁴⁴	Revised or new EU Ecolabel criteria	Comments in the related criteria
Energy sources to heat up the water	64-95 %	--	Out of the scope of this policy tool
Amount of product used per application	2-32 %	User information	It informs users about the amount of product to be used depending on the washing conditions
		Automatic dosing systems	The criterion ensures that users do not use an incorrect dose when using multi-component systems.
Formulation Choice of and amount of surfactant	2-32 %	Biodegradability	It ensures that surfactants are degradable and will not persist in the environment
		Restricted substances	It ensures that hazardous surfactants are not included in the bill of materials
		Phosphorus content	It ensures that limited and restricted types of phosphorus compounds are included as ingredients
		Sustainable Palm oil	It ensures that renewable palm oil surfactants do not cause unnecessary strain on the ecosystem.
Formulation Choice of and amount of other ingredients	2-32 %	Colorants	It ensures that colorants do not accumulate in the water
		Fragrances	It ensures that only a limited amount of ingredients with sensitizing properties is used
		Enzymes	It ensures that enzymes cannot be inhaled limiting health risks for users

⁴³ Regulation (EC) No 66/2010 of the European Parliament and of the Council of November 25 2009 on the EU Ecolabel

⁴⁴ Information provided in chapter 5 of the Preliminary Report, although aggregated in a different way, available at: <http://susproc.jrc.ec.europa.eu/detergents/stakeholders.html>

Hotspots	% of total impact ⁴⁴	Revised or new EU Ecolabel criteria	Comments in the related criteria
		Preservatives	It ensures that no persistent or biocide preservatives are included as an ingredient
Emissions to water	2-32 %	Toxicity to aquatic organisms	It ensures that the sum of the ingredients is not toxic to the aquatic organisms
		Biodegradability	It ensures that ingredients are not persistent in the water
		Restricted substances	It ensures that hazardous substances do not reach the water (rivers, sea, oceans, etc)
		Colorants	It ensures that colorants do not accumulate, a limited use of ingredients with sensitizing properties or are not inhaled
		Fragrances	
		Enzymes	
		Information appearing on the EU Ecolabel	It informs consumers that the product has a limited amount of hazardous substances while they are making purchase decisions
Energy consumed to heat up the water	64-95 %	User Information	It provides information to the users on how to wash to get the most of the product damaging the least the environment
		Fitness for use	It ensures consumers that the product is fit to wash at lower temperature depending of the intended use
		Information appearing on the EU Ecolabel	It informs consumers that the product is fit for washing while they are making purchase decisions
Waste generation	0-11 %	Packaging	It ensures that limited amount of waste will be generated and that this waste can be recycled
		User Information	It reminds consumers to dispose of the packaging in a responsible manner
Water consumption	Not rated	User Information	The criterion encourages users to opt for wash loads. It provides information to the users on how to get the most out of the product while lowering the damage to the environment.
Hazardous substances	Not rated	Hazardous substances and mixtures	It limits the hazardous substances and mixtures that can be included in the product limiting environmental and risks for consumers.
		Ingoing substances listed in accordance with Article 59(1) of Regulation (EC) No 1907/2006	
		Information appearing on the EU Ecolabel	It informs consumers that the product has a limited amount of hazardous substances at purchasing

4.3 Summary of the feedback requested from stakeholders

INDUSTRIAL AND INSTITUTIONAL AUTOMATIC DISHWASHER DETERGENTS		
CRITERION SECTION	QUESTIONS	
Toxicity to aquatic organisms	1	Should the CDV limits for multi-component products be stricter? If so please propose a suitable limit?
Biodegradability	1	Do you agree with keeping the current criterion?
	2	What would be the appropriate limits for aNBO and anNBO? Could stakeholders please share with the project team data on the amount of aNBO and anNBO organic substances and mixtures in the product groups covered?
Excluded or limited substances and mixtures	1	Has DTPA used in Industrial and institutional automatic dishwasher detergents any feasible alternative on the market?
	2	Should perborates be explicitly excluded from the IIDD (and DD) product group?
	3	Are additional exclusions required for other substances?
	1	Do you have information which could substantiate keeping/removing the current derogations.
Excluded or limited substances and mixtures Phosphorus content	1	Should phosphorus compounds be excluded from this product group?
	2	Can phosphates be substituted from IDD without increasing the chemical loading of sacrificing cleaning performance?
	3	Do you agree with the proposed limits for phosphorous compounds?
	4	Could the limits be stricter?
Packaging	1	Packaging is not one of the top 5 KPIs for I&I dishwasher detergents, should a criterion related to it be kept?
	2	Are the WUR limits appropriate?
	3	Is the design for recycling requirement suitable for this product group?
Automatic dosage	1	Is the criterion on multi-component products relevant to the product group?
User information	1	Is the change to the dosage instruction wording acceptable?
	2	Is a statement on overdosing required as part of the consumer information criterion?
	3	Should information on use of renewable energy be included?
	4	Should recycling labels be included on dishwasher detergent packaging?
	5	Is it appropriate to have the information appearing on the EU Ecolabel as a separate criterion? (N.B. this is a horizontal issue relevant to other product groups)

4.4 Criteria structure comparison table

STRUCTURE OF THE CRITERIA	
Current organisation of the EU Ecolabel criteria	Potential changes, modifications or amendments
<p>Criterion 1: Toxicity to aquatic organisms: Critical Dilution Volume (CDV) Criterion 2: Biodegradability Criterion 3: Excluded or limited substances and mixtures Criterion 4: Packaging requirements Criterion 5: Washing performance (fitness for use) Criterion 6: Automatic dosing systems Criterion 7: User information — Information appearing on the EU Ecolabel</p>	<p>Criterion 1: Toxicity to aquatic organisms Criterion 2: Biodegradability Criterion 3: Sustainable sourcing of palm oil, etc. Criterion 4: Restricted substances Criterion 5: Packaging Criterion 6: Fitness for use Criterion 7: Automatic dosing systems Criterion 8: User information Criterion 9: Information appearing on the EU Ecolabel</p>
	<p>The proposed changes to the structure reflect the harmonisation across all detergents and cleaning products criteria documents. An additional criterion is proposed to cover sustainable sourcing of certain ingredients.</p>

4.5 Name and definition comparison table

NAME OF THE EU ECOLABEL	
Current name of the EU Ecolabel	Potential changes, modifications or amendments
Industrial and institutional automatic dishwasher detergents	No changes
DEFINITION OF THE PRODUCT GROUP	
<p>The product group 'Industrial and Institutional Automatic Dishwasher Detergents' shall comprise single and multi-component dishwasher detergents, rinse and pre-soaks, designed for use in professional dishwashers.</p> <p>The following products are excluded from the scope of this product group: consumer automatic dishwasher detergents, detergents intended to be used in washers of medical devices or in special machines for the food industry.</p> <p>Sprays not dosed via automatic pumps are excluded from this product group.</p>	<p>The product group 'Industrial and Institutional Automatic Dishwasher Detergents' shall comprise single and multi-component dishwasher detergents, rinse and pre-soaks, designed for use in professional dishwashers. Multi-component systems may incorporate a number of products including pre-soaks and rinsing agents.</p> <p>The following products are excluded from the scope of this product group: consumer automatic dishwasher detergents, detergents intended to be used in washers of medical devices or in special machines for the food industry.</p> <p>Sprays not dosed via automatic pumps are excluded from this product group.</p>
	The proposed changes concern the clarification of what constitutes a multi-component system as concerns were raised on the issue.

4.6 Comparison of existing and proposed criteria

CRITERIA																																																
Existing EU Ecolabel criteria			Potential changes, modifications or amendments																																													
Criterion 1: Toxicity to aquatic organisms																																																
<p>The Critical Dilution Volume (CDV chronic) of a single or multi-component system must not exceed the following limits (at the highest recommended dose):</p> <table border="1"> <thead> <tr> <th>CDV at the highest recommended dosage</th> <th>Soft</th> <th>Medium</th> <th>Hard</th> </tr> <tr> <th>Product type</th> <th>0-6 °dH</th> <th>7-13 °dH</th> <th>> 14 °dH</th> </tr> </thead> <tbody> <tr> <td>Pre-soaks</td> <td>2000</td> <td>2000</td> <td>2000</td> </tr> <tr> <td>Dishwasher detergents</td> <td>3000</td> <td>5000</td> <td>10,000</td> </tr> <tr> <td>Multi-component system</td> <td>3000</td> <td>4000</td> <td>7000</td> </tr> <tr> <td>Rinse aids</td> <td>3000</td> <td>3000</td> <td>3000</td> </tr> </tbody> </table> <p>The Critical Dilution Volume (CDV chronic) is calculated for all ingoing substances (i) in the product using the following equation:</p> $CDV = \sum CDV(i) = 1000 \cdot \sum dosage(i) \cdot \frac{DF(i)}{TF(i)}$ <p>Where: weight = the weight of the ingoing substance per recommended dose DF = the degradation factor TF = the chronic toxicity factor of the substance as stated in the DID list.</p> <p>Biocides and colouring agents present in the product shall also be included in the CDV calculation even if the concentration is lower than 0,010 % (100 ppm).</p> <p>Because of the degradation of the substances in the wash process, separate rules apply to the following substances:</p> <ul style="list-style-type: none"> — Hydrogen Peroxide (H2O2) — not to be included in calculation of CDV, — Peracetic acid — to be included in the calculation as acetic acid. <p>Assessment and verification the applicant shall provide the calculation of the CDV chronic of the product. A spreadsheet for calculation of the CDV value is</p>			CDV at the highest recommended dosage	Soft	Medium	Hard	Product type	0-6 °dH	7-13 °dH	> 14 °dH	Pre-soaks	2000	2000	2000	Dishwasher detergents	3000	5000	10,000	Multi-component system	3000	4000	7000	Rinse aids	3000	3000	3000	<p>The critical dilution volume (CDV) of the product must not exceed the following limits for the reference dosage:</p> <table border="1"> <thead> <tr> <th>Water hardness Product type</th> <th>Soft (<1,5 mmol CaCO3/l)</th> <th>Medium (1,5 – 2,5 mmol CaCO3/l)</th> <th>Hard (>2,5 mmol CaCO3/l)</th> </tr> </thead> <tbody> <tr> <td>Pre-soaks</td> <td>2 000</td> <td>2 000</td> <td>2 000</td> </tr> <tr> <td>Dishwasher detergents</td> <td>3 000</td> <td>5 000</td> <td>10 000</td> </tr> <tr> <td>Multi-component systems</td> <td>3 000</td> <td>4 000</td> <td>7 000</td> </tr> <tr> <td>Rinse aids</td> <td>3 000</td> <td>3 000</td> <td>3 000</td> </tr> </tbody> </table> <p>Assessment and verification: Calculation of the CDV of the product. A spreadsheet for calculation of the CDV value is available on the EU Ecolabel website. The Critical Dilution Volume (CDV) is calculated for all ingoing substances and mixtures (i) in the product using the following equation:</p> $CDV = \sum CDV(i) = 1000 \cdot \sum dosage(i) \cdot \frac{DF(i)}{TF(i)}$ <p>Where: <i>dosage(i)</i>: weight (g) of the substance or mixture <i>i</i> in the reference dose, <i>DF(i)</i>: degradation factor for the substance or mixture <i>i</i> <i>TF(i)</i>: toxicity factor for the substance or mixture <i>i</i></p> <p>The values of <i>DF(i)</i> and <i>TF(i)</i> shall be as given in the DID list Part A (Appendix I⁴⁵). If a substance or mixture is not included in the DID list Part A, the applicant shall estimate the values follow the approach described in the DID list Part B (Appendix I).</p> <p>Because of the degradation of the substances in the wash process, separate rules apply to the following substances:</p>		Water hardness Product type	Soft (<1,5 mmol CaCO3/l)	Medium (1,5 – 2,5 mmol CaCO3/l)	Hard (>2,5 mmol CaCO3/l)	Pre-soaks	2 000	2 000	2 000	Dishwasher detergents	3 000	5 000	10 000	Multi-component systems	3 000	4 000	7 000	Rinse aids	3 000	3 000	3 000
CDV at the highest recommended dosage	Soft	Medium	Hard																																													
Product type	0-6 °dH	7-13 °dH	> 14 °dH																																													
Pre-soaks	2000	2000	2000																																													
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Multi-component system	3000	4000	7000																																													
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Water hardness Product type	Soft (<1,5 mmol CaCO3/l)	Medium (1,5 – 2,5 mmol CaCO3/l)	Hard (>2,5 mmol CaCO3/l)																																													
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Dishwasher detergents	3 000	5 000	10 000																																													
Multi-component systems	3 000	4 000	7 000																																													
Rinse aids	3 000	3 000	3 000																																													

⁴⁵ The "Appendix" referred to in the criteria text is the Appendix found at the end of EU Ecolabel criteria and has not been formulated as of the writing of this report. It does not refer to the Appendixes found at the end of this Technical Report.

available on the EU Ecolabel website.
The values of the DF and TF parameters shall be as given in the Detergent Ingredient Database list (DID list). If the substance is not found on the DID list, the parameters shall be calculated using the guidelines in Part B of the DID list and attaching the associated documentation

- hydrogen peroxide (H₂O₂) – not to be included in calculation of CDV
- peracetic acid – to be included in the calculation as acetic acid.

The proposed changes refer to the name of the criterion that is brought in line with other EU Ecolabel criteria for detergents as well as the units expressing the hardness of water.

Criterion 2: Biodegradability of organics

(a) Biodegradability of surfactants

All surfactants must be biodegradable under aerobic and anaerobic conditions.

(b) Biodegradability of organic substances

The content of all organic substances in the product that are aerobically non-biodegradable (not readily biodegradable) (aNBO) and anaerobically non-biodegradable (anNBO) shall not exceed the following limits:

aNBO (aerobically non-biodegradable)

Product type (g/l washing solution)	Soft	Medium	Hard
	0-6 °dH	7-13 °dH	> 14 °dH
Pre-soaks	0.4	0.4	0.4
Dishwasher detergents/ Multi-component system	0.4	0.4	0.4
Rinse aids	0.04	0.04	0.04

anNBO (anaerobically non-biodegradable)

Product type (g/l washing solution)	Soft	Medium	Hard
	0-6 °dH	7-13 °dH	> 14 °dH
Pre-soaks	0.4	0.4	0.4
Dishwasher detergents/ Multi-component system	0.6	1.0	1.5
Rinse aids	0.04	0.04	0.04

Assessment and verification: the applicant shall provide documentation for the degradability of surfactants as well as the calculation of aNBO and anNBO for the product. A spreadsheet for use in calculating aNBO and anNBO values is available on the EU Ecolabel website.

a) Biodegradability of surfactants

— All surfactants shall be biodegradable under aerobic conditions.
All surfactants shall be biodegradable under anaerobic conditions

b) Biodegradability of organic substances and mixtures

The content of organic substances and mixtures in the product that are aerobically non-biodegradable (not readily biodegradable aNBO) or anaerobically non-biodegradable (anNBO) shall not exceed the following limits for the reference dosage:

aNBO (g/l washing solution)

Product type	Water hardness		
	Soft <1,5 mmol CaCO ₃ /l	Medium 1,5 – 2,5 mmol CaCO ₃ /l	Hard > 2,5 mmol CaCO ₃ /l
Pre-soaks	0,4	0,4	0,4
Dishwasher detergents/ Multi-component system	0,4	0,4	0,4
Rinse aids	0,04	0,04	0,04

anNBO (g/l washing solution)

For both surfactants and aNBO and anNBO values reference should be done to the DID List. For ingoing substances which are not included in the DID list, the relevant information from literature or other sources, or appropriate test results, showing that they are aerobically and anaerobically biodegradable shall be provided as described in Appendix I.

Note that TAED should be considered anaerobically biodegradable.

In the absence of documentation in accordance with the above requirements, a substance other than a surfactant may be exempted from the requirement for anaerobic degradability if one of the following three alternatives is fulfilled:

1. Readily degradable and has low adsorption ($A < 25\%$); or
2. Readily degradable and has high desorption ($D > 75\%$); or
3. Readily degradable and non-bioaccumulating.

Testing for adsorption/desorption may be conducted in accordance with OECD guidelines 106.

Product type	Water hardness		
	Soft <1,5 mmol CaCO ₃ /l	Medium 1,5 – 2,5 mmol CaCO ₃ /l	Hard > 2,5 mmol CaCO ₃ /l
Pre-soaks	0,4	0,4	0,4
Dishwasher detergents/ Multi-component system	0,6	1,0	1,5
Rinse aids	0,04	0,04	0,04

Assessment and verification: The applicant shall provide documentation for the degradability of surfactants, as well as the calculations of aNBO and anNBO for the product. A spreadsheet for use in calculating aNBO and anNBO values is available on the EU Ecolabel website.

For both surfactants and aNBO and anNBO values, reference shall be made to the DID List. For ingredients which are not included in the DID List, the relevant information from literature or other sources, or appropriate test results, showing that they are aerobically and anaerobically biodegradable shall be provided as described in Appendix I.

In the absence of documentation in accordance with the above requirements, an ingoing substances and mixtures other than a surfactant may be exempted from the requirement for anaerobic degradability if one of the following three alternatives is fulfilled:

1. Readily degradable and has low adsorption ($A < 25\%$);
2. Readily degradable and has high desorption ($D > 75\%$);
3. Readily degradable and non-bioaccumulating.

Testing for adsorption/desorption may be conducted in accordance with OECD guidelines 106.

As six EU Ecolabels related to detergents are being revised at the same time and as these products often have similar formulations, it is judicious to consider the harmonisation of their criteria. The current six EU Ecolabel criteria approach the subject using three different manners and stakeholder consultation has yielded a multitude of opinions. It has thus been decided that a discussion during the 1st AHWG meeting will be held. As a starting point for the harmonised approach, the criterion included in the most recently voted criteria for industrial and institutional products (laundry and dishwasher detergents) is proposed. The criterion will be revised following discussions with stakeholders. Collection of data on aNBO and anNBO is conducted.

Criterion 3 – Excluded or limited substances and mixtures

(a) Specified excluded ingoing substances

The following ingoing substances must not be included in the product, neither as part of the formulation nor as part of any mixture included in the formulation:

- EDTA (ethylenediamine tetraacetate), EN L 326/28 Official Journal of the European Union 24.11.2012
- Fragrances,
- Reactive chlorine compounds,
- APEO (Alkyl phenol ethoxylates) and APD (Alkylphenols and derivatives thereof).

Assessment and verification: the applicant shall provide a completed and signed declaration of compliance.

(b) Hazardous substances and mixtures

According to the Article 6(6) of Regulation (EC) No 66/2010 on the EU Ecolabel, the product or any component of it shall not contain substances meeting criteria for classification with the hazard statements or risk phrases specified below in accordance with Regulation (EC) No 1272/2008 of the European Parliament and of the Council (1) or Council Directive 67/548/EEC nor shall it contain substances referred to in Article 57 of Regulation (EC) No 1907/2006. The risk phrases below generally refer to substances. However, if information on substances cannot be obtained, the classification rules for mixtures apply.

(a) Specified excluded ingoing substances

The product shall not be formulated or manufactured using any of the following compounds:

- (xx) Phosphates
- (xxi) Phosphonates that are not readily biodegradable
- (xxii) Ethylenediaminetetraacetate (EDTA) and its salts
- (xxiii) Fragrances
- (xxiv) Reactive chlorine compounds
- (xxv) Alkylphenol ethoxylates (APEO) and alkylphenol derivatives (APD)
- (xxvi) Perborates
- (xxvii) Diethylenetriaminepentaacetic acid (DTPA)

Assessment and verification: the applicant shall provide:

- a) a signed declaration of compliance supported by declarations from manufacturers of mixtures, as appropriate, confirming that the listed substances and/or mixtures have not been included in the product.
- b) written statements on compliance, including:
 - information on the complexing agents in the product (detail information of the type of phosphonates added as ingredients);
 - information for the biodegradability of the phosphonates. A spreadsheet for use in calculating aNBO values is available on the EU Ecolabel website.

For aNBO values reference should be done to the DID List. For phosphonates which are not included in the most updated DID list, the relevant information from literature or other sources, or appropriate test results, showing that they are aerobically biodegradable shall be provided as described in Appendix I.

(b) Hazardous substances and mixtures

According to Article 6(6) of Regulation (EC) No 66/2010, the EU Ecolabel may not be awarded to any product that contains substances meeting criteria for classification with the hazard statements specified in the list below in accordance with Regulation (EC) No 1272/2008 of the European Parliament and of the Council or substances referred to in Article 57 of Regulation (EC) No 1907/2006. The hazard statements in Table 24 generally refer to substances. However, if information on substances cannot be obtained, the classification rules for mixtures apply.

List of hazard statements:

GHS Hazard Statement	EU Risk Phrase
H300 Fatal if swallowed	R28
H301 Toxic if swallowed	R25
H304 May be fatal if swallowed and enters airways	R65
H310 Fatal in contact with skin	R27
H311 Toxic in contact with skin	R24
H330 Fatal if inhaled	R23/26
H331 Toxic if inhaled	R23
H340 May cause genetic defects	R46
H341 Suspected of causing genetic defects	R68
H350 May cause cancer	R45
H350i May cause cancer by inhalation	R49
H351 Suspected of causing cancer	R40
H360F May damage fertility	R60
H360D May damage the unborn child	R61
H360FD May damage fertility. May damage the unborn child	R60/61/60-61
H360Fd May damage fertility. Suspected of damaging the unborn child	R60/63
H360Df May damage the unborn child. Suspected of damaging fertility	R61/62
H361f Suspected of damaging fertility	R62
H361d Suspected of damaging the unborn child	R63
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.	R62-63
H362 May cause harm to breast fed children	R64
H370 Causes damage to organs	R39/23/24/25/26/27/28
H371 May cause damage to organs	R68/20/21/22
H372 Causes damage to organs through prolonged or repeated exposure	R48/25/24/23
H373 May cause damage to organs through prolonged or repeated exposure	R48/20/21/22
H400 Very toxic to aquatic life	R50
H410 Very toxic to aquatic life with long-lasting effects	R50-53
H411 Toxic to aquatic life with long-lasting effects	R51-53
H412 Harmful to aquatic life with long-lasting effects	R52-53

Substances or mixtures which change their properties through processing and thus become no longer bioavailable, or undergo chemical modification in a way that removes the previously identified hazard are exempted from criterion X(b).

Table 24: Hazard statements

GHS Hazard Statement
H300 Fatal if swallowed
H301 Toxic if swallowed
H304 May be fatal if swallowed and enters airways
H310 Fatal in contact with skin
H311 Toxic in contact with skin
H330 Fatal if inhaled
H331 Toxic if inhaled
H340 May cause genetic defects
H341 Suspected of causing genetic defects
H350 May cause cancer
H350i May cause cancer by inhalation
H351 Suspected of causing cancer
H360F May damage fertility
H360D May damage the unborn child
H360FD May damage fertility. May damage the unborn child
H360Fd May damage fertility. Suspected of damaging the unborn child
H360Df May damage the unborn child. Suspected of damaging fertility
H361f Suspected of damaging fertility
H361d Suspected of damaging the unborn child
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
H362 May cause harm to breast fed children
H370 Causes damage to organs
H371 May cause damage to organs
H372 Causes damage to organs through prolonged or repeated exposure
H373 May cause damage to organs through prolonged or repeated exposure
H400 Very toxic to aquatic life
H410 Very toxic to aquatic life with long-lasting effects
H411 Toxic to aquatic life with long-lasting effects

H413 May cause long-lasting harmful effects to aquatic life	R5R593
EUH059 Hazardous to the ozone layer	R29
EUH029 Contact with water liberates toxic gas	R29
EUH031 Contact with acids liberates toxic gas	R31
EUH032 Contact with acids liberates very toxic gas	R32
EUH070 Toxic by eye contact	R39-41
Sensitising substances	
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled	R42
H317: May cause allergic skin reaction	R43

Note that this criterion also applies to known degradation products such as formaldehyde from formaldehyde releasers.

Substances or mixtures which change their properties through processing (e.g. become no longer bioavailable, or undergo chemical modification in a way that removes the previously identified hazard) are exempted from the above requirement.

The final product must not be labelled according to the hazard statements above.

Derogations

The following substances are specifically exempted from this requirement

H412 Harmful to aquatic life with long-lasting effects	
H413 May cause long-lasting harmful effects to aquatic life	
EUH059 Hazardous to the ozone layer	
EUH029 Contact with water liberates toxic gas	
EUH031 Contact with acids liberates toxic gas	
EUH032 Contact with acids liberates very toxic gas	
EUH070 Toxic by eye contact	
Sensitising substances	
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled	
H317: May cause allergic skin reaction	

This criterion applies to all ingredients present in concentrations $\geq 0,01$ %, including preservatives, colouring agents and fragrances.

For industrial and institutional automatic dishwasher products, the substances in Table 25 are exempted from the obligation in Article 6(6) of Regulation (EC) No 66/2010 following application of Article 6(7) of the same Regulation.

Table 25: Derogated substances - To be discussed in the 1st AHWG meeting

Derogated substance	H phrases
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Assessment and verification: the applicant shall demonstrate compliance with criterion X(b) for any ingoing substance or mixture present at concentrations greater than 0,010% in the product.

A declaration of compliance shall be provided by the applicant supported, where appropriate, by the declarations from producer(s) of the raw materials that none of these ingoing substances and/or mixtures meet the criteria for classification with one or more of hazard statements listed in the form(s) and physical state(s) they are present in the product.

The following technical information related to the form(s) and physical state(s) of the ingoing substances and/or mixtures as present in the product shall be provided to support the declaration of non-classification:

(i) For substances that have not been registered under Regulation (EC) No 1907/2006 and/or which do not yet have a harmonised CLP classification: Information meeting the requirements listed in Annex VII to that Regulation;

Surfactants In concentrations <15 % in the final product	H400 Very toxic to aquatic life	R50	<p>(ii) For substances that have been registered under Regulation (EC) No 1907/2006 and which do not meet the requirements for CLP classification: Information based on the REACH registration dossier confirming the non-classified status of the substance;</p> <p>(iii) For substances that have a harmonised classification or are self-classified: safety data sheets where available. If these are not available or the substance is self-classified then information shall be provided relevant to the substances hazard classification according to Annex II to Regulation (EC) No 1907/2006;</p> <p>(iv) In the case of mixtures: safety data sheets where available. If these are not available then calculation of the mixture classification shall be provided according to the rules under Regulation (EC) No 1272/2008 together with information relevant to the mixtures hazard classification according to Annex II to Regulation (EC) No 1907/2006.</p> <p>For substances listed in Annexes IV and V to Regulation (EC) No 1907/2006, which are exempted from registration obligations under point (a) and (b) of Article 2(7) of that Regulation, a declaration to this effect by the applicant shall suffice to comply with criterion X(b).</p> <p>A declaration on the presence of ingoing substances that fulfil the derogation conditions shall be provided by the applicant, supported, where appropriate, by declarations from the producer(s) of the raw materials. Where required for the derogation, the applicant shall confirm the concentrations of these ingoing substances in the final product.</p>
Surfactants In concentrations <25 % in the final product	H412 Harmful to aquatic life with long-lasting effects	R52-53	
Biocides used for preservation purposes (*) (only for liquids with pH between 2 and 12 and maximum 0.10 % w/w of active material)	H331: Toxic if inhaled H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled H317: May cause allergic skin reaction H400: Very toxic to aquatic life	R50-53 R51-53 R52-53	
Enzymes (**)	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled H317: May cause allergic skin reaction H400: Very toxic to aquatic life	R43 R42	
NTA as an impurity in MGDA and GLDA (***)	H351 suspected of causing cancer	R40	

Assessment and verification the applicant shall demonstrate compliance with this criterion by providing a declaration on the non-classification of each ingoing substance into any of the hazard classes associated to the hazard statements referred to in the above list in accordance with Regulation (EC) No 1272/2008, as far as this can be determined, as a minimum, from the information meeting the requirements listed in Annex VII to Regulation (EC) No 1907/2006. This declaration shall be supported by summarised information on the relevant characteristics associated to the hazard statements referred to in the above list, to the level of detail specified in Sections 10, 11 and 12 of Annex II to Regulation (EC) No 1907/2006 (Requirements for the Compilation of Safety Data Sheets).

Information on intrinsic properties of substances may be generated by means other than tests, for instance through the use of alternative methods such as in vitro methods, by quantitative structure activity models or by the use of grouping or read-across in accordance with Annex XI to Regulation (EC) No 1907/2006. The sharing of relevant data is strongly encouraged.

The information provided shall relate to the forms or physical states of the

substance or mixtures as used in the final product.

For substances listed in Annexes IV and V to REACH, exempted from registration obligations under Article 2(7)(a) and (b) of Regulation (EC) No 1907/2006 REACH, a declaration to this effect will suffice to comply with the requirements set out above.

(c) Substances listed in accordance with Article 59(1) of Regulation (EC) No 1907/2006

No derogation from the exclusion in Article 6(6) of the Regulation (EC) No 66/2010 shall be given concerning substances identified as substances of very high concern and included in the list foreseen in Article 59 of Regulation (EC) No 1907/2006, present in mixtures in concentrations > 0,010 %.

Assessment and verification the list of substances identified as substances of very high concern and included in the candidate list in accordance with Article 59 of Regulation (EC) No 1907/2006 can be found here: http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp

Reference to the list shall be made on the date of application. The applicant shall provide the exact formulation of the product to the competent body. The applicant shall also provide a declaration of compliance with this criterion, together with related documentation, such as declarations of compliance signed by the material suppliers and copies of relevant Safety Data Sheets for substances or mixtures.

(d) Specified limited ingoing substances — Biocides

(i) The product may only include biocides in order to preserve the product, and in the appropriate dosage for this purpose alone. This does not refer to surfactants, which may also have biocidal properties.

Assessment and verification the applicant shall provide copies of the material safety data sheets of any biocides added, together with information on their exact concentration in the product. The manufacturer or supplier of the biocides shall provide information on the dosage necessary to preserve the product.

(ii) It is prohibited to claim or suggest on the packaging or by any other communication that the product has an antimicrobial or disinfecting effect.

Assessment and verification the applicant shall provide the texts and layouts used on each type of packaging and/or an example of each different type of packaging to the competent body.

(c) Substances listed in accordance with Article 59(1) of Regulation (EC) No 1907/2006

No derogation from the exclusion in Article 6(6) of Regulation (EC) No 66/2010 shall be given concerning ingoing substances identified as substances of very high concern and included in the list provided for in Article 59(1) of Regulation (EC) No 1907/2006⁴⁶, present in the product in concentrations higher than 0.010% (weight by weight).

Assessment and verification: *reference to the list of substances identified as substances of very high concern shall be made on the date of application. The applicant shall provide the full formulation of the product to the competent body. The applicant shall also provide a declaration of compliance with criterion X(c), together with related documentation, such as declarations of compliance signed by the material suppliers and copies of relevant safety data sheets for substances or mixtures.*

(d) Specified limited ingoing substances — Preservatives

(i) considered bioaccumulating if $BCF < 100$ or $\log Pow < 3,0$. If both BCF and $\log K_{ow}$ values are available, the highest measured BCF value shall be used.

(ii) Preservatives in the product shall not release or degrade to substances that are classified in accordance with the requirements of criterion x(b) Hazardous substances and mixtures.

(iii) It is prohibited to claim or suggest on the packaging or by any other communication that the product has an antimicrobial action.

Assessment and verification: *the applicant shall provide a signed declaration of compliance, together with copies of the safety data sheets of any preservative added, and information on its BCF and/or $\log K_{ow}$ values. The applicant shall provide also artwork of the packaging.*

⁴⁶ http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp

(iii) The product may contain biocides provided that they are not bioaccumulating. A biocide is not considered bioaccumulating if BCF < 100 or logK_{ow} < 3,0. If both BCF and logK_{ow} values are available, the highest measured BCF value shall be used.

Assessment and verification the applicant shall provide copies of the material safety data sheets of any biocide added, together with information on their BCF and/or logK_{ow} values.

(e) Colouring agents

Colouring agents allowed in the product must not be bioaccumulating. In the case of colouring agents approved for use in foodstuffs it is not necessary to submit documentation of bioaccumulation potential. A colouring agent is considered not bioaccumulating if BCF < 100 or logK_{ow} < 3,0. If both BCF and logK_{ow} values are available, the highest measured BCF value shall be used.

Assessment and verification the applicant shall provide copies of the material safety data sheets of any colouring agents added, or documentation to ensure that the colouring agent is approved for use in foodstuff.

(f) Enzymes

Enzymes must be in liquid form or dust-free granulate. Enzymes must be free from micro-organism remnants from manufacture.

Assessment and verification the applicant shall provide copies of the material safety data sheets of any enzyme added, together with documentation to ensure that the enzyme is free from micro-organism remnants.

(g) Phosphorous content

The total quantity of phosphates and other phosphorous compounds must not exceed the limit values specified in table, calculated in grams of phosphorous per litre water.

The highest recommended dosage shall be used for the phosphorous calculations.

Product type Phosphorous(g P/l water)	Soft	Medium	Hard
	0-6 °dH	7-13 °dH	> 14 °dH
Pre-soaks	0.08	0.08	0.08

(e) Colorants

Colorants in the product must not be bioaccumulating. A colorant is considered not bioaccumulating if BCF < 100 or logPow < 3.0. If both BCF and log K_{ow} values are available, the highest measured BCF value shall be used. [In the case of colouring agents approved for use in food, it is not necessary to submit documentation of bioaccumulation potential.](#)

Assessment and verification: [the applicant shall provide copies of the safety data sheets of any colorant added together with information on its BCF and/or log K_{ow} value, or documentation to ensure that the colouring agent is approved for use in food.](#)

(f) Enzymes

Enzymes must be in liquid form or dust-free granulate. Enzymes must be free from micro-organism remnants from manufacture.

Assessment and verification: the applicant shall provide copies of the material safety data sheets of any enzyme added, together with documentation to ensure that the enzyme is free from micro-organism remnants.

(g) Phosphorous content

The total quantity of [phosphorus compounds](#) must not exceed the limit values specified in the table below:

Product type Phosphorous(g P/l water)	Water hardness (mmolCaCO ₃ /l)		
	Soft	Medium	Hard
	(<1.5)	(1.5-2.5)	(>2.5)
Pre-soaks	0.08	0.08	0.08

Dishwasher detergents	0.15	0.30	0.50	Dishwasher detergents	0.15	0.30	0.50
Rinse aids	0.02	0.02	0.02	Rinse aids	0.02	0.02	0.02
Multi-component system	0.17	0.32	0.52	Multi-component system	0.17	0.32	0.52
<p>Assessment and verification: the applicant shall provide documentation to ensure that the limit in the above table is fulfilled.</p>				<p>Assessment and verification The applicant shall provide written statements on compliance, including:</p> <ul style="list-style-type: none"> - information on the complexing agents in the product (detail information of the type of phosphorus-content substances added as ingredients); - information on the recommended dose for different levels of soiling or water hardness (when applicable); - calculation of the product's total P-content 			
				<p>The proposed changes are focused on the following issues:</p> <ul style="list-style-type: none"> - the proposal for including perborates, DTPA, APD and their derivatives. Further input for this section is expected during the 1st AHWG meeting. - "Preservatives" substitute the current restrictions on biocides. This changes is motivated by the difficulties in verification of the current criterion, the need of addressing safe preservatives that do not release or degrade into other hazardous substances and ensuring the not bioaccumulation of the preservatives. - "Colorants" includes a change in the name from "colouring agents" to "colorants" and the inclusion that no information is needed to be submitted when colorants used in foodstuff are added. - Phosphonates that are not readily biodegradable are proposed to be excluded. The verification procedure has been changed in accordance. 			

Criterion 4 – Packaging

(a) Weight/utility ratio (WUR)

The weight/utility ratio (WUR) of the product shall not exceed the following values:

Product type	Soft	Medium	Hard
	0-6 °dH	7-13 °dH	> 14 °dH
Powders (g/l washing solution)	0.8	1.4	2.0
Liquids (g/l washing solution)	1.0	1.8	2.5

WUR shall be calculated only for primary packaging (including caps, stoppers and hand pumps/spraying devices) using the formula below:

Where:

W_i = the weight (g) of the packaging component (i) including the label if applicable

U_i = the weight (g) of non-recycled (virgin) material in the packaging component (i). If the proportion of recycled material in the packaging component is 0 % then $U_i = W_i$.

D_i = the number of functional units contained in the packaging component (i). The functional unit = dosage in g/l washing solution.

r_i = recycling figure, i.e. the number of times the packaging component (i) is used for the same purpose through a return or refill system. $r = 1$, if the packaging is not reused for the same purpose. If the packaging is reused r is set to 1 unless the applicant can document a higher number.

Exceptions

Plastic/paper/cardboard packaging containing more than 80 % recycled material or more than 80 % plastic from renewable origin is exempted from this requirement.

Packaging is regarded as recycled if the raw material used to make the packaging has been collected from packaging manufacturers at the distribution stage or at the consumer stage. Where the raw material is industrial waste from the material manufacturer's own production process, then the material will not be regarded as recycled.

a) Weight/utility ratio (WUR)

The weight/utility ratio (WUR) of the product shall be calculated for the primary packaging only and shall not exceed the following values for the reference dosage:

Product type \ Water hardness	Soft	Medium	Hard
	<1,5 mmol CaCO ₃ /l	1.5 – 2,5 mmol CaCO ₃ /l	> 2,5 mmol CaCO ₃ /l
Powders	0,8 g	1,4 g	2,0 g
Liquids	1,0 g	1,8 g	2,5 g

Are exempted from this requirement:

- Plastic/paper/cardboard packaging containing more than 80 % recycled materials,
- Paper/cardboard packaging that comes 80% from certified sustainable sources,
- Plastic packaging containing more than 80 % plastic from sustainable sources.

Assessment and verification: the applicant shall provide the calculation of the WUR of the product. A spreadsheet for this calculation is available on the EU Ecolabel website. If the product is sold in different packaging (i.e. with different volumes), the calculation shall be submitted for each packaging size for which the EU Ecolabel shall be awarded.

The applicant shall provide a completed and signed declaration for the content of recycled material in the packaging.

- For paper and cardboard, packaging is regarded as recycled if the raw material used to make the packaging has been collected from packaging manufacturers at the distribution stage or at the consumer stage. Where the raw material is industrial waste from the material manufacturer's own production process, then the material will not be regarded as recycled.

- For plastic, packaging is regarded as recycled if the raw material used to make the packaging comes from industrial waste or has been collected from packaging manufacturer at the distribution or at the consumer stage.

Assessment and verification the applicant shall provide the calculation of the WUR of the product. A spreadsheet for this calculation is available on the EU Ecolabel website. The applicant shall provide a completed and signed declaration for the content of recycled or material from renewable origin in the packaging. For approval of refill packaging, the applicant and/or retailer shall document that the refills will be/are available for purchase on the market.

(b) Plastic packaging

Only phthalates that at the time of application have been risk assessed and have not been classified according to criterion 3(b) (and combinations hereof) may be used in the plastic packaging.

In order to allow for identification of different parts of the packaging for recycling, plastic parts in the primary packaging must be marked in accordance with DIN 6120, Part 2 or the equivalent. Caps and pumps are exempted from this requirement.

Assessment and verification the applicant shall provide completed and signed declaration of compliance

The applicant shall provide a completed and signed declaration for the content of sustainably sourced material in the packaging. For paper and cardboard, the applicant shall provide TBD⁴⁷. For plastic, the applicant shall provide TBD.

The WUR is calculated as follows:

$$WUR = \sum ((W_i + U_i)/(D_i * R_i))$$

Where:

W_i: weight (g) of the primary packaging (i),

U_i: weight (g) of non-recycled and non-sustainably sourced packaging in the primary packaging (i). *U_i* = *W_i* unless the applicant can document otherwise,

D_i: number of reference doses contained in the primary packaging (i),

R_i: number of times that the primary packaging (i) can be refilled and used for the same purpose. *R_i* = 1 (packaging is not reused for the same purpose) unless the applicant can document a higher number.

b) Design for recycling

Plastic packaging shall be designed to facilitate effective recycling by avoiding potential contaminants and incompatible materials that are known to impede separation or reprocessing or to reduce the quality of recycle. The label or sleeve, closure and, where applicable, barrier coatings shall not comprise, either singularly or in combination the materials and components listed in Table 26. Pumps are exempted from this requirement.

Table 26: Materials and components excluded from packaging elements

Packaging element	Excluded materials and components ⁴⁸
Label or sleeve	<ul style="list-style-type: none"> - PS label or sleeve in combination material used with a PET, PP or HDPE bottle - PVC label or sleeve in combination with a PET, PP or HDPE bottle - PETG label or sleeve in combination with a PET bottle - Sleeves made of different polymer than the bottle - Labels or sleeves that are metallised or are welded to a packaging body (in mould labelling)

⁴⁷ TBD: to be determined. The acceptable certification schemes for the assessment and verification of this criterion have not been determined yet.

⁴⁸ EVA – Ethylene Vinyl Acetate, EVOH – Ethylene vinyl alcohol, HDPE – High-density polyethylene, PET – Polyethylene terephthalate, PETG – Polyethylene terephthalate glycol-modified, PP – Polypropylene, PS – Polystyrene, PVC – Polyvinylchloride

	<table border="1"> <tr> <td>Closure</td> <td> <ul style="list-style-type: none"> - PS closure in combination with a PET, HDPE or PP bottle - PVC closure in combination with a PET, PP or HDPE bottle - PETG closures and/or closure material with density of above 1 g/cm³ in combination with a PET bottle - Closures made of metal, glass, EVA - Closures made of silicone. Exempted are silicone closures with a density < 1 g/cm³ in combination with a PET bottle and silicone closures with a density > 1g/cm³ in combination with PEHD or PP bottle - Metallic foils or seals which remain fixed to the bottle or its closure after the product has been opened </td> </tr> <tr> <td>Barrier coatings</td> <td>Polyamide, EVOH, functional polyolefins, metallised and light blocking barriers</td> </tr> </table> <p>Assessment and verification: The applicant shall submit a signed declaration of compliance specifying the material composition of the packaging including the container, label or sleeve, adhesives, closure and barrier coating, and a sample of primary packaging.</p>	Closure	<ul style="list-style-type: none"> - PS closure in combination with a PET, HDPE or PP bottle - PVC closure in combination with a PET, PP or HDPE bottle - PETG closures and/or closure material with density of above 1 g/cm³ in combination with a PET bottle - Closures made of metal, glass, EVA - Closures made of silicone. Exempted are silicone closures with a density < 1 g/cm³ in combination with a PET bottle and silicone closures with a density > 1g/cm³ in combination with PEHD or PP bottle - Metallic foils or seals which remain fixed to the bottle or its closure after the product has been opened 	Barrier coatings	Polyamide, EVOH, functional polyolefins, metallised and light blocking barriers
Closure	<ul style="list-style-type: none"> - PS closure in combination with a PET, HDPE or PP bottle - PVC closure in combination with a PET, PP or HDPE bottle - PETG closures and/or closure material with density of above 1 g/cm³ in combination with a PET bottle - Closures made of metal, glass, EVA - Closures made of silicone. Exempted are silicone closures with a density < 1 g/cm³ in combination with a PET bottle and silicone closures with a density > 1g/cm³ in combination with PEHD or PP bottle - Metallic foils or seals which remain fixed to the bottle or its closure after the product has been opened 				
Barrier coatings	Polyamide, EVOH, functional polyolefins, metallised and light blocking barriers				
	<p>The minor proposed change in WUR aims to promote sustainably sourced raw materials. The currently present specific criteria on plastic packaging are proposed to be removed, while the recyclability of plastic packaging is proposed to be promoted by limiting combinations of materials that can hinder the recycling process.</p>				
Criterion 5- Fitness for use					
<p>The performance and efficiency of the product must be satisfactory. The product must satisfy the requirements for the user test or internal testing in accordance with Appendix II.</p> <p>Assessment and verification: the applicant shall submit a detailed test report to the Competent Body, including information/ documentation. See Appendix II.</p>	<p>Tests shall be carried out to ensure that the product has a satisfactory wash performance at the lowest recommended dosage for the water hardness according to laboratory or user tests. The tests shall be carried out at the water temperature stated in Appendix (to be added) or at the lowest temperature the product claims to be effective at. The test shall be performed by a laboratory complying with Appendix (to be added)</p> <p>The reference product is tested at the lowest recommended dosage that is stated on the packaging. If no dosage instructions are provided, the same dosage is used as for the test product.</p> <p>When applying for rinse aids in combination with dishwasher detergents, the rinse aid shall be used in the test instead of the reference rinse aid. For multifunctional products the applicant must submit documentation providing the effect of the claimed functions.</p> <p>Assessment and verification The applicant shall provide documentation confirming that the product has been tested under the standard/protocol conditions. Information should be provided on:</p>				

	<p>(a) Type of spots that are representative for the kind of soiled expected in the areas where the products will be marketed.</p> <p>(b) Information on the recommended dosage at the corresponding water hardness and the lowest recommended wash temperature at which the product claims to be effective</p> <p>(c) The product's ability to remove soiling from the surfaces or materials and the effectiveness of other products the detergent shall be used with (eg. rinse aids).</p> <p>(d) Information about the reference product against which the test product has been tested: market leadership, lowest commended dosage or dosage used (if no information is provided) and temperature, date of purchase and date of testing.</p> <p>(e) Documentation confirming the compliance within the laboratory requirements included in Appendix (to be added)</p> <p>If a user test is performed, the applicant should provide information on:</p> <p>(a) the way the test users were selected, all raw data from the tests and the test procedure</p> <p>(b) all reply forms received from the test users and the overall result on the wash performance of the user test specified in a table/a form. The response must be rated in accordance with Appendix (to be added)</p> <p>(c) information on how satisfied the test centre is with visit reporting arrangements and the categories rated.</p>
	<p>The proposed changes are focused on:</p> <ul style="list-style-type: none"> - information about how to select the reference product against the EU Ecolabel candidate will be tested - minimum requirements the certification institution shall fulfilled - a detailed list on the information of the testing product the producer claims and on the reference product selected

Criterion 6 – Automatic dosage system	
<p>Multi-component systems shall be offered together with an automatic and controlled dosing system.</p> <p>In order to ensure correct dosage in the automatic dosing systems, customer visits must be incorporated as a normal routine for manufacturers/suppliers. These customer visits are performed at all premises at least once a year during the license period; they must include calibration of the dosage equipment. Also, a third party can perform customer visits.</p> <p>In exceptional cases, customer visits may be dispensed with if the distance and method of delivery makes the visit impracticable.</p> <p>Assessment and verification: the applicant shall provide a written description of responsibility for, frequency and content of customer visits.</p>	<p>Multi-component systems shall be offered together with an automatic and controlled dosing system.</p> <p>In order to ensure correct dosage in the automatic dosing systems, customer visits must be incorporated as a normal routine for manufacturers/suppliers. These customer visits are performed at all premises at least once a year during the license period; they must include calibration of the dosage equipment. Also, a third party can perform customer visits.</p> <p>In exceptional cases, customer visits may be dispensed with if the distance and method of delivery makes the visit impracticable.</p> <p>Assessment and verification: the applicant shall provide a written description of responsibility for, frequency and content of customer visits.</p>
Criterion 7 – User instructions	
<p>(a) Information on the packaging/product information sheet</p> <p>The following recommendations must appear on the packaging, and/or on product information sheet or equivalent:</p> <ul style="list-style-type: none"> — Dose according to the degree of soil, and the water hardness. Follow the dosing instructions. — Using this EU Ecolabelled product according to the dosage instructions will contribute to the reduction of water pollution and waste production. 	<p>The detergent shall be accompanied by instructions for proper use so as to maximise product performance and minimise waste. <i>These instructions shall be legible or include graphical representation or icons and include information on:</i></p> <p>a) dosing instructions</p> <p><i>The primary packaging or product information sheet shall include information on the recommended dosage in g or ml for various levels of water hardness and various levels of soiling.</i></p> <p><i>The packaging or product information sheet shall indicate the most prevalent water hardness in the area where the product is intended to be marketed or where this information can be found.</i></p> <p><i>The applicant shall take suitable steps to help consumers respect the recommended dosage, making available a dosage device and/or indicating the recommended dosage in a well-known metric.</i></p> <p>b) resource saving measures</p> <p><i>The applicant shall recommend washing at the lowest temperature the product claims effectiveness and washing with full loads.</i></p> <p>c) packaging disposal information</p> <p><i>The primary packaging or product information sheet shall include information on the reuse, recycling and/or correct disposal of packaging.</i></p> <p>d) environmental information (voluntary)</p>

	<p>The following text is recommended to appear on the primary packaging or product information sheet but its use is voluntary: "All detergents have an effect on the environment. Always use the correct dose for maximum effectiveness, the lowest recommended temperature. This will minimize both energy and water consumption and reduce water pollution".</p> <p>Assessment and verification: The applicant shall provide a sample of the product label or product information sheet</p>
<p style="text-align: center;"><u>(b) Information appearing on the EU Ecolabel</u></p> <p>The logo should be visible and legible. The use of the EU Ecolabel logo is protected in primary EU law. The EU Ecolabel registration/licence number must appear on the product, it must be legible and clearly visible.</p> <p>The optional label with text box shall contain the following text:</p> <ul style="list-style-type: none"> — reduced impact on aquatic ecosystems, — limited hazardous substances, — performance tested. <p>The guidelines for the use of the optional label with text box can be found in the 'Guidelines for use of the Ecolabel logo' on the website: http://ec.europa.eu/environment/ecolabel/documents/logo_guidelines.pdf</p> <p>Assessment and verification (a-b): the applicant shall provide a sample of the product label and/or product sheet, together with a declaration of compliance with this criterion. Product claims shall be documented through appropriate test reports</p>	<p style="text-align: center;">Criterion 8 – Information appearing on the EU Ecolabel</p> <p>The logo should be visible and legible. The use of the EU Ecolabel logo is protected in primary EU law. The EU Ecolabel registration/licence number must appear on the product, it must be legible and clearly visible.</p> <p>The optional label with text box shall contain the following text:</p> <ul style="list-style-type: none"> — reduced impact on aquatic ecosystems, — limited hazardous substances, — performance tested. <p>Assessment and verification: the applicant shall provide a sample of the product packaging, including the label</p>
	<p>Separate criteria are proposed for the user information and the information appearing in the EU Ecolabel.</p> <p>The user information criterion accounts for the following changes:</p> <ul style="list-style-type: none"> - information of the dosage regarding the hardness of the water and level of soiling - information on the end-of-life of the packaging - recommendations for wash full load and at minimum claimed temperature - environmental information to prevent users from considering the product environmentally innocuous <p>The information appearing in the EU Ecolabel has been brought in line with the text included in other EU Ecolabel detergents products. It highlights the main environmental improvements of the product.</p>

Criterion NEW - Sustainable sourcing of palm oil, palm kernel oil and their derivatives

Ingredients used in the product which are derived from palm oil or palm kernel oil must be sourced from plantations that meet the criteria for sustainable management that have been developed by multi-stakeholder organisations who have a broad based membership including NGOs, industry and government.

Assessment and verification: the applicant shall provide third-party certifications that the palm oil used in the manufacturing of the product originates from sustainable managed plantations. Certifications accepted shall include RSPO (by identified preserved, segregates or mass balance) or any equivalent scheme based on multi-stakeholder sustainable management criteria. For chemical derivatives of palm oil it is acceptable to demonstrate sustainability for these through book and claim systems such as GreenPalm or equivalent.

4.7 Revision of main decision text

4.7.1 Name, definition and scope for EU Ecolabel

Current definition:

The product group 'Industrial and Institutional Automatic Dishwasher Detergents' shall comprise single and multi-component dishwasher detergents, rinse and pre-soaks, designed for use in professional dishwashers.

The following products are excluded from the scope of this product group: consumer automatic dishwasher detergents, detergents intended to be used in washers of medical devices or in special machines for the food industry.

Sprays not dosed via automatic pumps are excluded from this product group.

Proposal for new definition and scope

The product group 'Industrial and Institutional Automatic Dishwasher Detergents' shall comprise single and multi-component dishwasher detergents, rinse and pre-soaks, designed for use in professional dishwashers. [Multi-component systems may incorporate a number of products including pre-soaks and rinsing agents.](#)

The following products are excluded from the scope of this product group: consumer automatic dishwasher detergents, detergents intended to be used in washers of medical devices or in special machines for the food industry.

Sprays not dosed via automatic pumps are excluded from this product group.

Rationale and discussion

The market analysis, the stakeholder survey and review of other ecolabels and voluntary agreements for industrial and institutional automatic dishwasher detergents have shown that the current scope are in line with the current state of the professional dishwasher detergent market and no further issues were raised during consultation. *Further information on these can be found in Sections 3.2, 2.3 and 2.5 respectively of the Preliminary Report.*

The definition is proposed to be expanded with examples to clarify what makes up a multi-component system in the case of industrial and institutional dishwasher detergents.

4.7.2 Definitions

Current definition text
(inexistent)

Proposal for definitions text
(1) "ingoin substances and mixtures" means <ul style="list-style-type: none">- biocides, fragrances, colouring agents, and mixtures thereof, regardless of concentration in the final formulation,- substances and mixtures intentionally added, by-products and impurities from raw materials, the concentration of which equals or exceeds 0,010% by weight of final formulation, (2) "primary packaging" means packaging conceived so as to constitute the smallest sales unit of distribution to the final user or consumer at the point of purchase in direct contact with the content, including label where applicable.

Rationale and discussion

For further information on the update of definitions listed, refer to the Technical Annexe (Section 7.4.3).

Several definitions are proposed to be added in the main decision text in order to clarify and simply the subsequent wording of criteria, including a definition for "ingoin substances and mixtures" to provide information on the measurement thresholds for the different types of substances and mixtures covered.

The definition for "primary packaging" is proposed to be moved from the packaging criterion to the definition section. The definitions of primary packaging for industrial and institutional products are different as single dose products represent a less significant share of the market for these dishwasher detergents than for those aimed at domestic use.

4.8 Technical Report / Criteria Proposals

4.8.1 Assessment and verification requirements and measurement thresholds

Current assessment and verification requirements and measurement thresholds

a) Requirements

The specific assessment and verification requirements are indicated within each criterion.

Where the applicant is required to provide declarations, documentation, analyses test reports or other evidence to show compliance with the criteria, it is understood that these may originate from the applicant and/or his supplier(s) and/or their supplier(s) etc., as appropriate.

Where possible, the testing should be performed by laboratories that meet the general requirements of EN ISO 17025 or equivalent.

Where possible, the testing should be performed by laboratories that meet the general requirements of EN ISO 17025 or equivalent.

Appendix (to be added) makes reference to the detergent ingredient database (DID list) which contains the most widely used ingoing substances used in detergent formulations. It shall be used for deriving the data for the calculations of the Critical Dilution Volume (CDV) and for the assessment of the biodegradability of the ingoing substances. For substances not present on the DID list, guidance is given on how to calculate or extrapolate the relevant data. The latest version of the DID list is available from the EU Ecolabel website or via the websites of the individual competent bodies.

Where appropriate, competent bodies may require supporting documentation and may carry out independent verifications.

b) Measurement thresholds

Compliance with the ecological criteria is required for substances intentionally added, as well as for by-products and impurities from raw materials, the concentration of which equals or exceeds 0,010 % by weight of final formulation.

For biocides and colouring agents compliance with the criteria is required regardless of their concentration.

Substances meeting the threshold limit as listed above are hereby referred to as 'Ingoing substances'.

Proposal for assessment and verification requirements and measurement thresholds

e) Requirements

The specific assessment and verification requirements are indicated for each criterion.

Where the applicant is required to provide declarations, documentation, analyses, test reports, or other evidence to show compliance with the criteria, [these may originate from the applicant or his supplier\(s\) or both](#).

Where possible, the testing shall be performed by laboratories that meet the general requirements of European Standard EN ISO 17025 or equivalent.

Where appropriate, test methods other than those indicated for each criterion may be used if the competent body assessing the application accepts their equivalence.

Where appropriate, competent bodies may require supporting documentation and may carry out independent verifications.

The Appendix (to be added) makes reference to the "Detergent Ingredient Database" list (DID list) which contains the most widely used ingredients in detergents and cosmetics formulations. It shall be used for deriving the data for the calculations of the Critical Dilution Volume (CDV) and for the assessment of the biodegradability of the ingoing substances. For substances not present on the DID list, guidance is given on how to calculate or extrapolate the relevant data. The latest version of the DID list is available from the EU Ecolabel website or via the websites of the individual competent bodies.

The following information shall be provided to the competent body:

(i) The full formulation of the product indicating trade name, chemical name, CAS no. and INCI designations, DID no.2, the ingoing quantity including and excluding water, the function and the form of all ingredients regardless of concentration;

(ii) safety data sheets for each ingoing substance or mixture in accordance with Regulation (EC) No 1907/2006 of the European Parliament and of the Council.

f) Measurement thresholds

Compliance with the ecological criteria is required for all ingoing substances, with the exception of compliance with criterion X(b) and X(c) for preservatives, colorants and fragrances which is requested when their concentration equals or exceeds 0,010% by weight in the final formulation.

Rationale and discussion

a) Requirements

The text regarding the assessment and verification requirements is proposed to be aligned with the text from the EU Ecolabel on Rinse-off Cosmetics. One of the most significant changes proposed is the addition of the text that clarifies what is to be provided to the competent bodies, it was previously found in the section on the assessment and verification of the functional unit. This change simplifies the reading of the criteria and harmonises the text with the ones for the other product groups being revised.

b) Measurement thresholds

The measurement threshold is the concentration of ingredients in the product for which there is a requirement for documentation of compliance with the ecological criteria. It is proposed to harmonise the measurement thresholds for all the EU Ecolabels in the detergents group and the EU Ecolabel for rinse-off cosmetics. The new text and thresholds are discussed in the Technical Annexe (Section 7.5.1).

In the specific case of the EU Ecolabel for industrial and institutional automatic dishwasher detergents, the new text proposes the same thresholds as in the current one except in the case of sections (b) and (c) of the criterion on restricted substances. In the current text, fragrances, preservatives and colouring agents are to be taken into account regardless of concentration for all requirements and in the proposed text, the measurement thresholds for these substances and mixtures is set to 0,01% as it is difficult to guarantee accuracy at lower limits.

4.8.2 Functional unit (reference dosage)

Current requirements for functional unit

The functional unit for this product group shall be expressed in g/l washing solution (grams per litre washing solution)

Requirements relating to assessment and verification of the functional unit:

The full formulation indicating trade name, chemical name, CAS No, DID No (*), the ingoing quantity including and excluding water, the function and the form of all the ingoing substances (regardless of concentration) in the product must be submitted to the competent body. A sample of the artwork including dosage recommendations must be submitted to the competent body.

Safety data sheets for each ingoing substance shall be submitted to the competent body in accordance with Regulation (EC) No 1907/2006 of the European Parliament and of the Council.

*Parts A and B of the DID list can be found on the EU Ecolabel website:
http://ec.europa.eu/environment/ecolabel/documents/did_list/didlist_part_a_en.pdf
http://ec.europa.eu/environment/ecolabel/documents/did_list/didlist_part_b_en.pdf*

Proposal for reference dosage

The following dosage is taken as the reference dosage for the calculations aiming at documenting compliance with the EU Ecolabel criteria and for testing of cleaning ability:

Highest dosage recommended by the manufacturer to produce one litre of washing solution based on water hardness (indicated in g/l washing solution or ml/l washing solution).

Rationale and discussion

A functional unit in the case of detergents for dishwashers is the amount of dishes that should be washed using a reference dosage. A reference dosage is the quantity of product used when calculating compliance with ecological requirements such as biodegradability and CDV. Further information on functional units and reference dosage in EU Ecolabels related to detergents can be found in the Technical Annexe (Section 7.6).

In the case of industrial and institutional automatic dishwasher detergents, it is proposed to remove the paragraph on the functional unit and to introduce the notion of "reference dosage" as it is this quantity that should be used when calculating compliance with the different requirements in the EU Ecolabel.

4.8.3 Criterion 1: Toxicity to aquatic organisms: Critical Dilution Volume (CDV)

Current criterion 1

The critical dilution volume (CDV_{chronic}) of a single or multi-component system must not exceed the following limits (at the highest recommended dose):

CDV at the highest recommended dosage	Soft	Medium	Hard
Product type	0-6 °dH	7-13 °dH	> 14 °dH
Pre-soaks	2000	2000	2000
Dishwasher detergents	3000	5000	10,000
Multi-component system	3000	4000	7000
Rinse aids	3000	3000	3000

The method for calculation of CDV value is described in the technical annexe.

Biocides and colouring agents present in the product shall also be included in the CDV calculation even if the concentration is lower than 0.010 % (100 ppm)

Because of the degradation of the substances in the wash process, separate rules apply to the following substances:

- hydrogen peroxide (H_2O_2) – not to be included in calculation of CDV
- peracetic acid – to be included in the calculation as acetic acid.

Assessment and verification: the applicant shall provide the calculation of the CDV_{chronic} of the product. A spreadsheet for calculation of the CDV value is available on the EU Ecolabel website. The values of the DF and TF parameters shall be as given in the Detergent Ingredient Database list (DID list). If the substance is not found on the DID list, the parameters shall be calculated using the guidelines in Part B of the DID list and attaching the associated documentation.

Proposal for criterion 1 – "Toxicity to aquatic organisms"

The critical dilution volume (CDV) of the product must not exceed the following limits for the reference dosage:

Water hardness / Product type	Soft (<1,5 mmol CaCO ₃ /l)	Medium (1,5 – 2,5 mmol CaCO ₃ /l)	Hard (>2,5 mmol CaCO ₃ /l)
Pre-soaks	2 000	2 000	2 000
Dishwasher detergents	3 000	5 000	10 000
Multi-component systems	3 000	4 000	7 000
Rinse aids	3 000	3 000	3 000

Assessment and verification: Calculation of the CDV of the product. A spreadsheet for calculation of the CDV value is available on the EU Ecolabel website. The Critical Dilution Volume (CDV) is calculated for all ingoing substances and mixtures (i) in the product using the following equation:

$$CDV = \sum CDV(i) = 1000 \cdot \sum dosage(i) \cdot \frac{DF(i)}{TF(i)}$$

Where:

$dosage(i)$: weight (g) of the substance or mixture i in the reference dose,

$DF(i)$: degradation factor for the substance or mixture i

$TF(i)$: toxicity factor for the substance or mixture i

The values of $DF(i)$ and $TF(i)$ shall be as given in the DID list Part A (Appendix I). If a substance or mixture is not included in the DID list Part A, the applicant shall estimate the values follow the approach described in the DID list Part B (Appendix I).

Because of the degradation of the substances in the wash process, separate rules apply to the following substances:

- hydrogen peroxide (H_2O_2) – not to be included in calculation of CDV
- peracetic acid – to be included in the calculation as acetic acid.

Rationale and discussion

Detergents have great potential to cause disturbances in aquatic ecosystems as they cause chemical emissions to water during their entire life cycle. For this reason, EU Ecolabels limit the amount of emissions due to EU Ecolabel products. Critical Dilution Volume (CDV) is used in the current EU Ecolabels related to detergents to assess toxicity to aquatic organisms. It is proposed to keep this assessment method in this revision. Further description of CDV and discussion of other assessment methods can be found in the Technical Annexe (Section 7.8.1).

To align with the other EU Ecolabels related to detergents, it is proposed to shorten the criterion's name to "toxicity to aquatic organisms".

For this product group the CDV limit is set for different levels of water hardness and for different product types. This is because the required dosage is affected by the level of water hardness and can be adjusted for in automatically dosed dishwashing machines, a parameter that is not generally available in domestic units.

Stakeholders recommended that CDV limits should be stricter for multi-component systems. However, only two CDV values have been acquired for this revision (Table 27), which is not sufficient to substantiate any value change proposals, especially considering that the values are not for multi-component systems.

Table 27: CDV data gathered for IIDDs

	CDV		
	Soft	Medium	Hard
IIDD 1	770	2 100	3 300
IIDD 2	2 300	2 300	2 900

A review of other ecolabels has shown that only Nordic Swan also proposes a criterion on toxicity to aquatic organisms that is assessed using the CDV method. The current Nordic Swan criteria propose limit values for acute and chronic CDV, depending whether chronic information is available for all the substances or not (Table 28). No differentiation is made in terms of water hardness, but generally water in Nordic countries is considered to be soft.

Table 28: CDV levels for Nordic Swan

	CDV	
	CDV _{acute}	CDV _{chronic}
DD and presoaks	5 000	1 900
Rinse aids	8 000	3 000

As such, no comparison can be made between the values found in the Nordic Swan criteria and the one in the EU Ecolabel, although it should be noted that no differentiation exists between detergents and multi-component systems.

Thus, no changes are proposed to be made to the maximum CDV limits indicated in the criterion. The wording of the text is proposed to be harmonised with the one found in other EU Ecolabels. Water hardness is proposed to be referenced in mmol CaCO₃/l, as indicated in Technical Annexe (Section 7.7.1) the ranges commonly used with mmol CaCO₃/l are different than those that are indicated in the current text with °dH.

Consultation questions

1	Should the CDV limits for multi-component products be stricter? If so please propose a suitable limit?
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4.8.4 Criterion 2: Biodegradability

Current criterion 2

a) Biodegradability of surfactants:

All surfactants must be biodegradable under aerobic and anaerobic conditions

b) Biodegradability of organic substances:

The content of organic substances in the product that are aerobically non-biodegradable (not readily biodegradable aNBO) or anaerobically non-biodegradable (anNBO) shall not exceed the following limits:

aNBO

Product type (g/l washing solution)	Soft	Medium	Hard
	0-6 °dH	7-13 °dH	> 14 °dH
Pre-soaks	0.4	0.4	0.4
Dishwasher detergents/ Multi-component system	0.4	0.4	0.4
Rinse aids	0.04	0.04	0.04

anNBO

Product type (g/l washing solution)	Soft	Medium	Hard
	0-6 °dH	7-13 °dH	> 14 °dH
Pre-soaks	0.4	0.4	0.4
Dishwasher detergents/ Multi-component system	0.6	1.0	1.5
Rinse aids	0.04	0.04	0.04

Note that TAED should be considered anaerobically biodegradable.

Assessment and verification: the applicant shall provide documentation for the degradability of surfactants as well as the calculation of aNBO and anNBO for the product. A spreadsheet for use in calculating aNBO and anNBO values is available on the EU Ecolabel website.

For both surfactants and aNBO and anNBO values reference should be done to the DID List. For ingoing substances which are not included in the DID list, the relevant information from literature or other sources, or appropriate test results, showing that they are aerobically and anaerobically biodegradable shall be provided as described in Appendix I.

Note that TAED should be considered anaerobically biodegradable.

In the absence of documentation in accordance with the above requirements, a substance other than a surfactant may be exempted from the requirement for anaerobic degradability if one of the following three alternatives is fulfilled:

1. Readily degradable and has low adsorption (A < 25 %); or
2. Readily degradable and has high desorption (D > 75 %); or
3. Readily degradable and non-bioaccumulating.

Testing for adsorption/desorption may be conducted in accordance with OECD guidelines 106.

Proposed criterion 4 – "Biodegradability"

a) Biodegradability of surfactants

All surfactants shall be biodegradable under aerobic conditions.

All non-ionic and cationic surfactants shall be biodegradable under anaerobic conditions.

b) Biodegradability of organic substances and mixtures

The content of organic substances and mixtures in the product that are aerobically non-biodegradable (not readily biodegradable aNBO) or anaerobically non-biodegradable (anNBO) shall not exceed the following limits for the reference dosage:

aNBO (g/l washing solution)

Product type	Water hardness	Soft	Medium	Hard
		<1,5 mmol CaCO ₃ /l	1,5 – 2,5 mmol CaCO ₃ /l	> 2,5 mmol CaCO ₃ /l
Pre-soaks		0,4	0,4	0,4
Dishwasher detergents/ Multi-component system		0,4	0,4	0,4
Rinse aids		0,04	0,04	0,04

anNBO (g/l washing solution)

Product type	Water hardness	Soft	Medium	Hard
		<1,5 mmol CaCO ₃ /l	1,5 – 2,5 mmol CaCO ₃ /l	> 2,5 mmol CaCO ₃ /l
Pre-soaks		0,4	0,4	0,4
Dishwasher detergents/ Multi-component system		0,6	1,0	1,5
Rinse aids		0,04	0,04	0,04

Assessment and verification: The applicant shall provide documentation for the degradability of surfactants, as well as the calculations of aNBO and anNBO for the product. A spreadsheet for use in calculating aNBO and anNBO values is available on the EU Ecolabel website.

For both surfactants and aNBO and anNBO values, reference shall be made to the DID List. For ingredients which are not included in the DID List, the relevant information from literature or other sources, or appropriate test results, showing that they are aerobically and anaerobically biodegradable shall be provided as described in Appendix I.

In the absence of documentation in accordance with the above requirements, an ingoing substances and mixtures other than a surfactant may be exempted from the requirement for anaerobic degradability if one of the following three alternatives is fulfilled:

1. Readily degradable and has low adsorption ($A < 25\%$);
2. Readily degradable and has high desorption ($D > 75\%$);
3. Readily degradable and non-bioaccumulating.

Testing for adsorption/desorption may be conducted in accordance with OECD guidelines 106.

Rationale and discussion

In the current EU Ecolabel industrial and institutional automatic dishwasher detergents the biodegradability of surfactants and organic substances is considered. As explained in the Technical Annexe (Section 7.9.1), the use of non-biodegradable (aNBO, anNBO) ingredients should be limited as substances which do not degrade rapidly in the environment have the potential to exert toxicity. A limitation (i.e. having maximum concentrations) allows for flexibility with formulations whilst reducing the risk to the environment.

As six EU Ecolabels related to detergents are being revised at the same time and as these products often have similar formulations, it is judicious to consider the harmonisation of their criteria. In the case of biodegradability, the current six EU Ecolabel criteria approach the subject using three different approaches and stakeholder consultation has yielded a multitude of opinions. It has thus been decided that a discussion during the 1st AHWG meeting will be conducted. As a starting point for the harmonised approach the criterion included in the most recently voted criteria for industrial and institutional products (laundry and dishwasher detergents) is proposed. In this sense the current criterion for IIDD is proposed to be kept. It requires aerobic and anaerobic degradability of surfactants and limits the amount of non-aerobically and non-anaerobically degradable organics. At present the values for aNBO and anNBO of the products are collected. This exercise will help evaluating validity of the current thresholds. The criterion on biodegradability will be revised following discussions with stakeholders.

Water hardness is proposed to be referenced in mmol CaCO₃/l, as indicated in Technical Annexe (Section 7.7.1) the ranges commonly used with mmol CaCO₃/l are different than those that are indicated in the current text with °dH.

Consultation questions

1	Do you agree with keeping the current criterion?
2	What would be the appropriate limits for aNBO and anNBO? Could stakeholders please share with the project team data on the amount of aNBO and anNBO organic substances and mixtures in the product groups covered?

4.8.5 Criterion 3: Excluded or limited substances and mixtures

Current criterion 3a Specified excluded ingoing substances

The following ingredients must not be included in the product, neither as part of the formulation nor as part of any mixture included in the formulation:

- EDTA (ethylenediaminetetraacetate)
- fragrances
- reactive chlorine compounds
- APEO (alkylphenoethoxylates) and APD (alkylphenols and derivatives thereof).

Assessment and verification: the applicant shall provide a completed and signed declaration of compliance.

Proposal for criterion X(a) – "Specified excluded ingoing substances and mixtures"

The product shall not be formulated or manufactured using any of the following compounds:

- (xxviii) Phosphates
- (xxix) Phosphonates that not are readily biodegradable
- (xxx) Ethylenediaminetetraacetate (EDTA) *and its salts*
- (xxxi) Fragrances
- (xxxii) Reactive chlorine compounds
- (xxxiii) Alkylphenol ethoxylates (APEO) and alkylphenol derivatives (APD)
- (xxxiv) *Perborates*
- (xxxv) *Diethylenetriaminepentaacetic acid (DTPA)*

Assessment and verification: the applicant shall provide

a) a signed declaration of compliance supported by declarations from manufacturers of mixtures, as appropriate, confirming that the listed substances and/or mixtures have not been included in the product.

b) written statements on compliance, including:

- information on the complexing agents in the product (detail information of the type of phosphonates added as ingredients);
- information for the biodegradability of the phosphonates. A spreadsheet for use in calculating aNBO values is available on the EU Ecolabel website.

For aNBO values reference should be done to the DID List. For phosphonates which are not included in the most updated DID list, the relevant information from literature or other sources, or appropriate test results, showing that they are aerobically biodegradable shall be provided as described in Appendix I.

Rationale and discussion

The requirement (a) *Specified excluded ingoing substances and mixtures* lists substances of concern, which (due to their properties and related impacts) are undesired in Ecolabel products. Among them there are certainly also substances which are classified or excluded above the concentration of 0,01% by sub-section (b) *Hazardous substances and mixtures* of this criterion. Nevertheless, due e.g. lack of harmonised classification and their potential hazard, it seems reasonable to cover them under this section ensuring that they are completely excluded from the EU Ecolabel products. We are conscious that at this stage overlaps in criteria regarding substances are possible. This will be tackled at a later stage of the process.

The information and grounds that lead to the exclusion of the following substances and substance groups are summarized in Technical Annexe (Section 7.10.1).

Harmonisation with DD product group

Where possible, the list of specified excluded ingoing substances should be harmonised between the IIDD and DD product groups. The Commission Statement following the previous revision on of the requirements expressed that the possibility of a closer alignment between the Industrial and Institutional and Consumer criteria should be investigated. As a consequence the substances to be excluded in various product groups will be discussed in a horizontal session in the 1st AHWG meeting.

At present the following substances are proposed to be added to the excluded substances list based on initial feedback and information collected (Further consideration of the scope if this criterion is needed):

- Phosphates
- Phosphonates that are not readily biodegradability
- Perborates
- Diethylenetriaminepentaacetic acid (DTPA) and their derivatives

Consultation questions	
1	Is DTPA used in I&I dishwasher detergents without any alternative?
2	Should perborates be explicitly excluded from the IIDD (and DD) product group?
3	Are additional exclusions required for other substances?

Current criterion 3b	
<p>According to Article 6(6) of the Regulation (EC) No 66/2010 on the EU Ecolabel, the product or any part of it thereof shall not contain substances or mixtures meeting the criteria for classification with the hazard classes or categories in accordance with Regulation (EC) No 1272/2008 specified below nor shall it contain substances referred to in Article 57 of Regulation (EC) No 1907/2006. The risk phrases below generally refer to substances. However, if information on substances cannot be obtained, the classification rules for mixtures apply.</p> <p>List of hazard statements:</p>	
GHS Hazard Statement	EU Risk Phrase
H300 Fatal if swallowed	R28
H301 Toxic if swallowed	R25
H304 May be fatal if swallowed and enters airways	R65
H310 Fatal in contact with skin	R27
H311 Toxic in contact with skin	R24
H330 Fatal if inhaled	R23/26
H331 Toxic if inhaled	R23
H340 May cause genetic defects	R46
H341 Suspected of causing genetic defects	R68
H350 May cause cancer	R45
H350i May cause cancer by inhalation	R49
H351 Suspected of causing cancer	R40
H360F May damage fertility	R60
H360D May damage the unborn child	R61
H360FD May damage fertility. May damage the unborn child	R60/61/60-61
H360Fd May damage fertility. Suspected of damaging the unborn child	R60/63
H360Df May damage the unborn child. Suspected of damaging fertility	R61/62
H361f Suspected of damaging fertility	R62
H361d Suspected of damaging the unborn child	R63
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.	R62-63
H362 May cause harm to breast fed children	R64
H370 Causes damage to organs	R39/23/24/25/26/27/28

H371 May cause damage to organs	R68/20/21/22
H372 Causes damage to organs through prolonged or repeated exposure	R48/25/24/23
H373 May cause damage to organs through prolonged or repeated exposure	R48/20/21/22
H400 Very toxic to aquatic life	R50
H410 Very toxic to aquatic life with long-lasting effects	R50-53
H411 Toxic to aquatic life with long-lasting effects	R51-53
H412 Harmful to aquatic life with long-lasting effects	R52-53
H413 May cause long-lasting harmful effects to aquatic life	R5R593
EUH059 Hazardous to the ozone layer	R29
EUH029 Contact with water liberates toxic gas	R29
EUH031 Contact with acids liberates toxic gas	R31
EUH032 Contact with acids liberates very toxic gas	R32
EUH070 Toxic by eye contact	R39-41
Sensitising substances	
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled	R42
H317: May cause allergic skin reaction	R43

Note that this criterion also applies to known degradation products such as formaldehyde from formaldehyde releasers.

Substances or mixtures which change their properties through processing (e.g. become no longer bioavailable, or undergo chemical modification in a way that removes the previously identified hazard) are exempted from the above requirement.

The final product must not be labelled according to the hazard statements above.

Derogations: the following substances or mixtures are specifically exempted from this requirement:

Surfactants In concentrations <15 % in the final product	H400 Very toxic to aquatic life	R50
Surfactants In concentrations <25 % in the final product	H412 Harmful to aquatic life with long-lasting effects	R52-53
Biocides used for preservation purposes (*) (only for liquids with pH between 2 and 12 and maximum 0.10 % w/w of active material)	H331: Toxic if inhaled H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled H317: May cause allergic skin reaction H400: Very toxic to aquatic life	R50-53 R51-53 R52-53
Enzymes (**)	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled H317: May cause allergic skin reaction H400: Very toxic to aquatic life	R43 R42
NTA as an impurity in MGDA and GLDA (***)	H351 suspected of causing cancer	R40

(*) Derogation is only for Criterion 3(b). Biocides shall comply with Criterion 3(d).

(**) Including stabilisers and other auxiliary substances in the preparations

(***) In concentrations lower than 1,0 % in the raw material as long as the total concentration in the final product is lower than 0,10 %'

Assessment and verification: the applicant shall demonstrate compliance with this criterion by providing a declaration on the non-classification of each ingoing substance into any of the hazard classes associated to the hazard statements referred to in the above list in accordance with Regulation (EC) No 1272/2008, as far as this can be determined, as a minimum, from the information meeting the requirements listed in Annex VII to Regulation (EC) No 1907/2006. This declaration shall be supported by summarised information on the relevant characteristics associated to the hazard statements referred to in the above list, to the level of detail specified in Sections 10, 11 and 12 of Annex II to Regulation (EC) No 1907/2006 (Requirements for the Compilation of Safety Data Sheets).

Information on intrinsic properties of substances may be generated by means other than tests, for instance through the use of alternative methods such as *in vitro* methods, by quantitative structure

activity models or by the use of grouping or read-across in accordance with Annex XI to Regulation (EC) No 1907/2006. The sharing of relevant data is strongly encouraged.

The information provided shall relate to the forms or physical states of the substance or mixtures as used in the final product.

For substances listed in Annexes IV and V to REACH, exempted from registration obligations under Article 2(7)(a) and (b) of Regulation (EC) No 1907/2006 REACH, a declaration to this effect will suffice to comply with the requirements set out above.

Proposal for criterion X(b) – "Hazardous substances and mixtures"

According to Article 6(6) of Regulation (EC) No 66/2010, the EU Ecolabel may not be awarded to any product that contains substances meeting criteria for classification with the hazard statements specified in the list below in accordance with Regulation (EC) No 1272/2008 of the European Parliament and of the Council or substances referred to in Article 57 of Regulation (EC) No 1907/2006. The hazard statements in Table 24 generally refer to substances. However, if information on substances cannot be obtained, the classification rules for mixtures apply.

Substances or mixtures which change their properties through processing and thus become no longer bioavailable, or undergo chemical modification in a way that removes the previously identified hazard are exempted from criterion X(b).

Table 24: Hazard statements

GHS Hazard Statement
H300 Fatal if swallowed
H301 Toxic if swallowed
H304 May be fatal if swallowed and enters airways
H310 Fatal in contact with skin
H311 Toxic in contact with skin
H330 Fatal if inhaled
H331 Toxic if inhaled
H340 May cause genetic defects
H341 Suspected of causing genetic defects
H350 May cause cancer
H350i May cause cancer by inhalation
H351 Suspected of causing cancer
H360F May damage fertility
H360D May damage the unborn child
H360FD May damage fertility. May damage the unborn child
H360Fd May damage fertility. Suspected of damaging the unborn child
H360Df May damage the unborn child. Suspected of damaging fertility
H361f Suspected of damaging fertility
H361d Suspected of damaging the unborn child
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
H362 May cause harm to breast fed children
H370 Causes damage to organs
H371 May cause damage to organs
H372 Causes damage to organs through prolonged or repeated exposure
H373 May cause damage to organs through prolonged or repeated exposure
H400 Very toxic to aquatic life
H410 Very toxic to aquatic life with long-lasting effects
H411 Toxic to aquatic life with long-lasting effects
H412 Harmful to aquatic life with long-lasting effects
H413 May cause long-lasting harmful effects to aquatic life
EUH059 Hazardous to the ozone layer
EUH029 Contact with water liberates toxic gas
EUH031 Contact with acids liberates toxic gas
EUH032 Contact with acids liberates very toxic gas
EUH070 Toxic by eye contact

Sensitising substances
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
H317: May cause allergic skin reaction

This criterion applies to all ingredients present in concentrations $\geq 0.01\%$, including preservatives, colouring agents and fragrances.

For industrial and institutional automatic dishwasher products, the substances in Table 25 are exempted from the obligation in Article 6(6) of Regulation (EC) No 66/2010 following application of Article 6(7) of the same Regulation.

Table 25: Derogated substances - To be discussed in the 1st AHWG meeting

Derogated substance	H phrases
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Assessment and verification: the applicant shall demonstrate compliance with criterion X(b) for any ingoing substance or mixture present at concentrations greater than 0,010% in the product.

A declaration of compliance shall be provided by the applicant supported, where appropriate, by the declarations from producer(s) of the raw materials that none of these ingoing substances and/or mixtures meet the criteria for classification with one or more of hazard statements in Table 24 in the form(s) and physical state(s) they are present in the product.

The following technical information related to the form(s) and physical state(s) of the ingoing substances and/or mixtures as present in the product shall be provided to support the declaration of non-classification:

(i) For substances that have not been registered under Regulation (EC) No 1907/2006 and/or which do not yet have a harmonised CLP classification: Information meeting the requirements listed in Annex VII to that Regulation;

(ii) For substances that have been registered under Regulation (EC) No 1907/2006 and which do not meet the requirements for CLP classification: Information based on the REACH registration dossier confirming the non-classified status of the substance;

(iii) For substances that have a harmonised classification or are self-classified: safety data sheets where available. If these are not available or the substance is self-classified then information shall be provided relevant to the substances hazard classification according to Annex II to Regulation (EC) No 1907/2006;

(iv) In the case of mixtures: safety data sheets where available. If these are not available then calculation of the mixture classification shall be provided according to the rules under Regulation (EC) No 1272/2008 together with information relevant to the mixtures hazard classification according to Annex II to Regulation (EC) No 1907/2006.

For substances listed in Annexes IV and V to Regulation (EC) No 1907/2006, which are exempted from registration obligations under point (a) and (b) of Article 2(7) of that Regulation, a declaration to this effect by the applicant shall suffice to comply with criterion X(b).

A declaration on the presence of ingoing substances that fulfil the derogation conditions shall be provided by the applicant, supported, where appropriate, by declarations from the producer(s) of the raw materials. Where required for the derogation, the applicant shall confirm the concentrations of these ingoing substances in the final product.

Consultation questions	
1	Do you have information which could substantiate keeping/removing the current derogations.

Current criterion 3c

(c) Substances listed in accordance with Article 59(1) of Regulation (EC) No 1907/2006:

No derogation from the exclusion in Article 6(6) shall be given concerning substances identified as substances of very high concern and included in the list foreseen in Article 59 of Regulation (EC) No 1907/2006 present in mixtures in concentrations higher than 0,010 %.

Assessment and verification: the list of substances identified as substances of very high concern and included in the candidate list in accordance with Article 59 of Regulation (EC) No 1907/2006 can be found here: http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp

Reference to the list shall be made on the date of application. The applicant shall provide the exact formulation of the product to the competent body. The applicant shall also provide a declaration of compliance with this criterion, together with related documentation, such as declarations of compliance signed by the material suppliers and copies of relevant Safety Data Sheets for substances or mixtures.

Proposal for criterion 3c – "(c) Substances listed in accordance with Article 59(1) of Regulation (EC) No 1907/2006:

No derogation from the exclusion in Article 6(6) of Regulation (EC) No 66/2010 shall be given concerning ingoing substances identified as substances of very high concern and included in the list provided for in Article 59(1) of Regulation (EC) No 1907/2006⁴⁹, present in the product in concentrations higher than 0.010% (weight by weight).

Assessment and verification: *reference to the list of substances identified as substances of very high concern shall be made on the date of application. The applicant shall provide the full formulation of the product to the competent body. The applicant shall also provide a declaration of compliance with criterion X(c), together with related documentation, such as declarations of compliance signed by the material suppliers and copies of relevant safety data sheets for substances or mixtures.*

Rationale and discussion

No content-wise changes are proposed. The text is proposed to be aligned with that of the corresponding criterion in the ROC criteria.

Current criterion 3d

(d) Specified limited ingoing substances - biocides

(i) The product may only include biocides in order to preserve the product, and in the appropriate dosage for this purpose alone. This does not refer to surfactants, which may also have biocidal properties

Assessment and verification: the applicant shall provide copies of the material safety data sheets of any biocides added, together with information on their exact concentration in the product. The manufacturer or supplier of the biocides shall provide information on the dosage necessary to preserve the product.

(ii) It is prohibited to claim or suggest on the packaging or by any other communication that the product has an antimicrobial or disinfecting effect.

Assessment and verification: the applicant shall provide the texts and layouts used on each type of packaging and/or an example of each different type of packaging to the competent body.

(iii) The product may contain biocides provided that they are not bioaccumulating. A biocide is not considered bioaccumulating if BCF_{100} or $\log K_{ow} < 3.0$. If both BCF and $\log K_{ow}$ values are available, the highest measured BCF value shall be used.

Assessment and verification: the applicant shall provide copies of the material safety data sheets of any biocide added, together with information on their BCF and/or $\log K_{ow}$ values.

⁴⁹ http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp

Proposal for criterion 3d – "Preservatives"

- (iv) The product may contain preservatives provided that they are not bioaccumulating. A preservative is not considered bioaccumulating if $BCF < 100$ or $\log K_{ow} < 3,0$. If both BCF and $\log K_{ow}$ values are available, the highest measured BCF value shall be used.
- (v) Preservatives in the product shall not release or degrade to substances that are classified in accordance with the requirements of criterion x(b) Hazardous substances and mixtures.
- (vi) It is prohibited to claim or suggest on the packaging or by any other communication that the product has an antimicrobial action.

Assessment and verification: the applicant shall provide a signed declaration of compliance, together with copies of the safety data sheets of any preservative added, and information on its BCF and/or $\log K_{ow}$ values. The applicant shall provide also artwork of the packaging.

Proposed changes

Biocides are used in detergent products for preservation purposes. They prevent the product from spoiling during storage by preventing the growth of microorganisms. However, the use of biocides in detergent products is a cause for concern; they are highly toxic to aquatic organisms and can also produce hypersensitivity and allergies (for background information see the Technical Annexe (Section 7.10.5)).

In the current criteria the following changes are proposed:

- The name of sub-criterion is proposed to be changed to 'Preservatives'.
- The statement "Product may only include biocides in order to preserve the product, and in the appropriate dosage for this purpose alone. This does not refer to surfactants, which may also have biocidal properties" is proposed to be removed as CBs mentioned in the ROC criteria development process that they cannot verify the compliance with this requirement and it should be removed.
- Finally, in the recent criteria development it was pointed out that sometimes preservatives may release or degrade to substances that are even more hazardous than the preservatives themselves. Therefore an additional requirement is proposed for consideration: *Preservatives in the product shall not release or degrade to substances that classified in accordance with the requirements of criterion x(b) Hazardous substances and mixtures.*

Current criterion 3e

(e) Colouring agents

Colouring agents allowed in the product must not be bioaccumulating. In the case of colouring agents approved for use in foodstuffs it is not necessary to submit documentation of bioaccumulation potential. A colouring agent is considered not bioaccumulating if $BCF < 100$ or $\log K_{ow} < 3,0$. If both BCF and $\log K_{ow}$ values are available, the highest measured BCF value shall be used.

Assessment and verification: the applicant shall provide copies of the material safety data sheets of any colouring agents added, or documentation to ensure that the colouring agent is approved for use in foodstuff.

Proposal for criterion 3e – "Colorants"

Colorants in the product must not be bioaccumulating. A colorant is considered not bioaccumulating if $BCF < 100$ or $\log P_{ow} < 3.0$. If both BCF and $\log K_{ow}$ values are available, the highest measured BCF value shall be used. In the case of colouring agents approved for use in food, it is not necessary to submit documentation of bioaccumulation potential.

Assessment and verification: the applicant shall provide copies of the safety data sheets of any colorant added together with information on its BCF and/or $\log K_{ow}$ value, or documentation to ensure that the colouring agent is approved for use in food.

Rationale and discussion

No content-wise changes are proposed. For more information on colorants see the Technical Annexe (Section 7.10.6).

Current criterion 3f

(f) Enzymes

Enzymes must be in liquid form or dust-free granulate. Enzymes must be free from micro-organism remnants from manufacture.

Assessment and verification: the applicant shall provide copies of the material safety data sheets of any enzyme added, together with documentation to ensure that the enzyme is free from micro-organism remnants.

Proposal for criterion 3f – "Enzymes"

No change is proposed.

Current criterion 3g

(g) Phosphorous

The total quantity of phosphates and other phosphorous compounds must not exceed the limit values specified in table, calculated in grams of phosphorous per litre water

The highest recommended dosage shall be used for the phosphorous calculations.

Product type Phosphorous(g P/l water)	Soft	Medium	Hard
	0-6 °dH	7-13 °dH	> 14 °dH
Pre-soaks	0.08	0.08	0.08
Dishwasher detergents	0.15	0.30	0.50
Rinse aids	0.02	0.02	0.02
Multi-component system	0.17	0.32	0.52

Assessment and verification: the applicant shall provide documentation to ensure that the limit in the above table is fulfilled.

Proposal for criterion – Phosphorus content

The total quantity of phosphorus compounds must not exceed the limit values specified in the table below:

Product type (g P/l water)	Water hardness (mmolCaCO ₃ /l)		
	Soft (<1.5)	Med (1.5-2.5)	Hard (>2.5)
Pre-soaks	0.08	0.08	0.08
Detergents	0.15	0.30	0.50
Rinse aids	0.02	0.02	0.02
Multicomp system	0.17	0.32	0.52

Assessment and verification: The applicant shall provide written statements on compliance, including:

- information on the complexing agents in the product (detail information of the type of phosphorus-content substances added as ingredients);
- information on the recommended dose for different levels of soiling or water hardness (when applicable);
- calculation of the product's total P-content

Rationale and discussion

The current evidences confirm that eutrophication caused by the use of phosphorus content compounds and in particular phosphates is still a subject of high relevance. Further information can be found in the Technical Annexe (Section 7.10.1.1).

Phosphates and phosphonates are widely used as complexing agents in dishwasher detergents for private and professional uses, but at the time being there are alternative on the market that are reported to work well such as MGDA and GLDA. The presence of alternative compounds and the environmental impacts associated with the use of phosphates triggers the revision and new proposal of the EU Ecolabel criterion. The limit for phosphorus compounds remains with a total ban for phosphates and phosphonates that are not aerobically biodegradable.

Table 29 compares selected schemes. The EU Ecolabel is the only one that makes more than two distinctions in the total phosphorus content depending on the type of product and the hardness of the water, although other schemes also include conversion factors for water hardness. Comparing first the level of strictness set for the dishwasher detergents, it can be seen that the Nordic labelling has the strictest limits, reported as soft-water. Even if the conversion factors reported for laundry detergents in the Nordic Labelling scheme are used, the thresholds for phosphorus content in the medium and hard water hardness remain the lowest ones. On the other hand, the Environmental choice label from New Zealand sets up thresholds for dishwasher detergents much higher than the current EU Ecolabel. This scheme provides the values for soft water hardness and the conversion factors for other hardness.

The current EU Ecolabel sets the values in between both schemes, but these thresholds refer to total phosphates and phosphorus compounds. In order to be in line with other EU Ecolabels schemes for detergents and the horizontal approach to revise these phosphorus related criteria, the new proposal EU Ecolabel criteria proposes to keep the limit for total phosphorus-content, but to set a ban for phosphates and phosphonates that are not aerobically biodegradable.

During the stakeholder consultation⁵⁰ one stakeholder claimed the feasibility of producing phosphate-free detergents, as it is for consumer dishwasher detergents. Considering the other agents present in the IIDD criteria set, it can be seen that the current EU Ecolabel criteria already stands for the strictest limits. Therefore no changes are proposed for these agents.

⁵⁰ Preliminary report for the revision of European ecological criteria: domestic and industrial and institutional dishwasher detergents, section 2.8.4

Table 29: Summary of the phosphorus ecolabel criteria in selected schemes

Label	Criterion																								
Nordic labelling	The total content of phosphorus in the product is limited to:																								
	<table border="1"> <thead> <tr> <th>Product type (g/l water)</th> <th>P (soft water)</th> <th>P (medium water)⁵¹</th> <th>P (hard water)</th> </tr> </thead> <tbody> <tr> <td>Dishwasher detergents and pre-soaks</td> <td>0.08</td> <td>0.104</td> <td>0.128</td> </tr> <tr> <td>Rinse aids</td> <td>0.04</td> <td>0.04</td> <td>0.04</td> </tr> </tbody> </table>	Product type (g/l water)	P (soft water)	P (medium water) ⁵¹	P (hard water)	Dishwasher detergents and pre-soaks	0.08	0.104	0.128	Rinse aids	0.04	0.04	0.04												
	Product type (g/l water)	P (soft water)	P (medium water) ⁵¹	P (hard water)																					
Dishwasher detergents and pre-soaks	0.08	0.104	0.128																						
Rinse aids	0.04	0.04	0.04																						
The total content of phosphonates/phosphonic acids must not exceed the limits specified below: Dishwasher detergents and pre-soaks: 0.01 g/l water Rinse aids: 0.006g/l water																									
Env. Choice NZ	Total phosphorus, NTA or alternatively EDTA may be included in the dishwasher detergents, pre-soaking liquid and drying agents must not exceed the following quantities:																								
	<table border="1"> <thead> <tr> <th>Product type (gP/L solution)</th> <th>P (in soft water)</th> <th>P (medium water)⁵²</th> <th>P (hard water)</th> </tr> </thead> <tbody> <tr> <td>Dishwasher detergents and pre-soaking liquid</td> <td>0.4</td> <td>0.601</td> <td>0.802</td> </tr> <tr> <td>Drying agent</td> <td>0.04</td> <td>0.04</td> <td>0.04</td> </tr> </tbody> </table>	Product type (gP/L solution)	P (in soft water)	P (medium water) ⁵²	P (hard water)	Dishwasher detergents and pre-soaking liquid	0.4	0.601	0.802	Drying agent	0.04	0.04	0.04												
	Product type (gP/L solution)	P (in soft water)	P (medium water) ⁵²	P (hard water)																					
Dishwasher detergents and pre-soaking liquid	0.4	0.601	0.802																						
Drying agent	0.04	0.04	0.04																						
The product must not contain more than 0.2 g of phosphonates that are not readily biodegradable (aerobically) per wash.																									
EU Ecolabel	The total quantity of phosphates and other phosphorus compounds must not exceed the limit values specified in the table below:																								
	<table border="1"> <thead> <tr> <th>(g P/l water)</th> <th colspan="3">Water hardness (°dH)</th> </tr> <tr> <th>Product type</th> <th>Soft (0-6)</th> <th>Med (7-13)</th> <th>Hard (>14)</th> </tr> </thead> <tbody> <tr> <td>Pre-soaks</td> <td>0.08</td> <td>0.08</td> <td>0.08</td> </tr> <tr> <td>Detergents</td> <td>0.15</td> <td>0.30</td> <td>0.50</td> </tr> <tr> <td>Rinse aids</td> <td>0.02</td> <td>0.02</td> <td>0.02</td> </tr> <tr> <td>Multicomp system</td> <td>0.17</td> <td>0.32</td> <td>0.52</td> </tr> </tbody> </table>	(g P/l water)	Water hardness (°dH)			Product type	Soft (0-6)	Med (7-13)	Hard (>14)	Pre-soaks	0.08	0.08	0.08	Detergents	0.15	0.30	0.50	Rinse aids	0.02	0.02	0.02	Multicomp system	0.17	0.32	0.52
	(g P/l water)	Water hardness (°dH)																							
	Product type	Soft (0-6)	Med (7-13)	Hard (>14)																					
	Pre-soaks	0.08	0.08	0.08																					
	Detergents	0.15	0.30	0.50																					
Rinse aids	0.02	0.02	0.02																						
Multicomp system	0.17	0.32	0.52																						

Consultation questions	
1	Can phosphates be substituted from IIDDs without increasing the chemical loading or sacrificing cleaning performance?
2	Do you agree with the proposed limits for phosphorous compounds?
3	Could the limits be stricter?

⁵¹ Conversion factors applied are those reported in the Ecolabel criteria for Laundry detergents for professional use, Nordic ecolabelling version

⁵² The following conversion factor: 0.067 total P for every extra 10mg CaO/l shall be used for calculating the quantity of complexing agents for water harder than 60mg CaO/l. The quantity of elementary phosphorus P, regardless of whether it occurs as phosphate-phosphorus, phosphonate compounds or other compounds where phosphorus may occur should be reported.

4.8.6 Criterion 4: Packaging requirements

Current criterion 4

g) Weight/utility ratio (WUR)

The weight/utility ratio (WUR) of the product shall not exceed the following values:

Product type	Soft	Medium	Hard
	0-6 °dH	7-13 °dH	> 14 °dH
Powders (g/l washing solution)	0.8	1.4	2.0
Liquids (g/l washing solution)	1.0	1.8	2.5

WUR shall be calculated only for primary packaging (including caps, stoppers and hand pumps/spraying devices) using the formula provided in annex

Exceptions:

- Plastic/paper/cardboard packaging containing more than 80% recycled materials or more than 80 % plastic from renewable origin is exempted from this requirement.

Packaging is regarded as recycled if the raw material used to make the packaging has been collected from packaging manufacturers at the distribution stage or at the consumer stage. Where the raw material is industrial waste from the material manufacturer's own production process, then the materials will not be regarded as recycled.

Assessment and verification: the applicant shall provide the calculation of the WUR of the product. A spreadsheet for this calculation is available on the EU Ecolabel website. The applicant shall provide a completed and signed declaration for the content of recycled or material from renewable origin in the packaging. For approval of refill packaging, the applicant and/or retailer shall document that the refills will be/are available for purchase on the market.

b) Plastic packaging

Only phthalates that at the time of application have been risk assessed and have not been classified according to criterion 2(b) may be used in the plastic packaging.

To allow for identification of different parts of the packaging for recycling, plastic parts in the primary packaging must be marked in accordance with DIN 6120, Part 2 or the equivalent. Caps and pumps are exempted from this requirement.

Assessment and verification: the applicant shall provide completed and signed declaration of compliance

Proposed criterion 4

c) Weight/utility ratio (WUR)

The weight/utility ratio (WUR) of the product shall be [calculated for the primary packaging only and shall not exceed the following values for the reference dosage:](#)

Product type \ Water hardness	Soft	Medium	Hard
	<1,5 mmol CaCO ₃ /l	1.5 – 2,5 mmol CaCO ₃ /l	> 2,5 mmol CaCO ₃ /l
Powders	0,8 g	1,4 g	2,0 g
Liquids	1,0 g	1,8 g	2,5 g

Are exempted from this requirement:

- Plastic/paper/cardboard packaging containing more than 80 % recycled materials,
- [Paper/cardboard packaging that comes 80% from certified sustainable sources,](#)
- [Plastic packaging containing more than 80 % plastic from sustainable sources.](#)

Assessment and verification: the applicant shall provide the calculation of the WUR of the product. A spreadsheet for this calculation is available on the EU Ecolabel website. If the product is sold in different packaging (i.e. with different volumes), the calculation shall be submitted for each packaging size for which the EU Ecolabel shall be awarded.

The applicant shall provide a completed and signed declaration for the content of recycled material in the packaging.

- For paper and cardboard, packaging is regarded as recycled if the raw material used to make the packaging has been collected from packaging manufacturers at the distribution stage or at the

consumer stage. Where the raw material is industrial waste from the material manufacturer's own production process, then the material will not be regarded as recycled.

- For plastic, packaging is regarded as recycled if the raw material used to make the packaging comes from industrial waste or has been collected from packaging manufacturer at the distribution or at the consumer stage.

The applicant shall provide a completed and signed declaration for the content of sustainably sourced material in the packaging. For paper and cardboard, the applicant shall provide TBD. For plastic, the applicant shall provide TBD.

The WUR is calculated as follows:

$$WUR = \sum ((W_i + U_i) / (D_i * R_i))$$

Where:

W_i: weight (g) of the primary packaging (i),

U_i: weight (g) of non-recycled and non-sustainably sourced packaging in the primary packaging (i). *U_i* = *W_i* unless the applicant can document otherwise,

D_i: number of reference doses contained in the primary packaging (i),

R_i: number of times that the primary packaging (i) can be refilled and used for the same purpose. *R_i* = 1 (packaging is not reused for the same purpose) unless the applicant can document a higher number.

d) Design for recycling

Plastic packaging shall be designed to facilitate effective recycling by avoiding potential contaminants and incompatible materials that are known to impede separation or reprocessing or to reduce the quality of recyclate. The label or sleeve, closure and, where applicable, barrier coatings shall not comprise, either singularly or in combination the materials and components listed in Table 26. Pumps are exempted from this requirement.

Table 26: Materials and components excluded from packaging elements

Packaging element	Excluded materials and components ⁵³
Label or sleeve	<ul style="list-style-type: none"> - PS label or sleeve in combination material used with a PET, PP or HDPE bottle - PVC label or sleeve in combination with a PET, PP or HDPE bottle - PETG label or sleeve in combination with a PET bottle - Sleeves made of different polymer than the bottle - Labels or sleeves that are metallised or are welded to a packaging body (in mould labelling)
Closure	<ul style="list-style-type: none"> - PS closure in combination a with a PET, HDPE or PP bottle - PVC closure in combination with a PET, PP or HDPE bottle - PETG closures and/or closure material with density of above 1 g/cm³ in combination with a PET bottle - Closures made of metal, glass, EVA - Closures made of silicone. Exempted are silicone closures with a density < 1 g/cm³ in combination with a PET bottle and silicone closures with a density > 1g/cm³ in combination with PEHD or PP bottle - Metallic foils or seals which remain fixed to the bottle or its closure after the product has been opened
Barrier coatings	Polyamide, EVOH, functional polyolefins, metallised and light blocking barriers

Assessment and verification: The applicant shall submit a signed declaration of compliance specifying the material composition of the packaging including the container, label or sleeve, adhesives, closure and barrier coating, and a sample of primary packaging.

⁵³ EVA – Ethylene Vinyl Acetate, EVOH – Ethylene vinyl alcohol, HDPE – High-density polyethylene, PET – Polyethylene terephthalate, PETG – Polyethylene terephthalate glycol-modified, PP – Polypropylene, PS – Polystyrene, PVC – Polyvinylchloride

Rationale and discussion

From a life-cycle perspective, the packaging has a low impact on the overall environmental impact of an industrial and institutional dishwasher detergent product (Preliminary Report – Section 4.4). Across all life-cycle phases, packaging was only dominant for agricultural land occupation (ALO) and this is attributed to the use of 20% non-recycled cardboard in the reference product. However, it is still relevant for the EU Ecolabel to reduce the consumption of unnecessary packaging materials through the setting of requirements on packaging.

Further information on the wording of the proposed criterion and background information on packaging can be found in the Technical Annexe (Section 7.11).

a) Weight utility ratio

No changes are proposed to the WUR levels, but it is proposed to further promote the use of recycled and sustainably sourced materials through reductions of the WUR. When this percentage is over 80%, it is proposed that the applicant shall be exempted from compliance with the WUR requirement. In the current criteria, only recycled material and plastics from renewable sources were considered.

Further information on this aspect can be found in the Technical Annexe (Section 7.11.3.1 and 7.11.3.2).

b) Design for recycling

In line with the EU Ecolabel on Rinse-off cosmetics, it is proposed to remove the requirement on the labelling of plastics parts but instead to promote the recyclability of packaging by avoiding combinations of incompatible materials and potential contaminants.

Further information on this aspect can be found in the Technical Annexe (Section 7.11.3.4).

Consultation questions	
1	Packaging is not one of the top 5 KPIs for I&I dishwasher detergents, should a criterion related to it be kept?
2	Are the WUR limits appropriate?
3	Is the design for recycling requirement suitable for this product group?

4.8.7 Criterion 5: Fitness for use

Current criterion 5

The performance and efficiency of the product must be satisfactory. The product must satisfy the requirements for the user test or internal testing in accordance with Appendix II.

Assessment and verification: the applicant shall submit a detailed test report to the Competent Body, including information/documentation. See Appendix II.

(From Appendix II)

a) Internal testing

The manufacturer's test laboratory can be approved to conduct testing to document effectiveness if the following additional requirements are met:

- It must be possible for ecolabelling organisations to monitor the performance testing,
- The ecolabelling organisation must have access to all data on the product,
- Performance of the effectiveness test must be described in the quality control system.

The applicant must submit documentation proving that the product has been tested under realistic conditions.

a) Dishes soiled with spots that are representative for the kind of soiled expected in the areas where the products will be marketed.

b) Recommended dosage and at the corresponding water hardness at the lowest recommended wash temperature

The applicant must submit documentation proving:

- the product's ability to remove soiling from the dishes,
- the product's ability to dry the dishes.

The test product must be tested against a reference product. The reference product may be a well-established product on the market and the tested product must be at least as effective as the reference.

b) User test

1. Responses must be obtained from at least five test centres representing a random selection of customers.

2. The procedure and dosage must conform to the manufacturer's recommendations.

3. The test period must continue for at least four weeks with at least 400 test cycles.

4. Every test centre must assess the effectiveness of the product or multi-component system by answering questions relating to the following aspects (or similar formulations):

- the product's ability to remove soiling from the dishes,
- the product's ability to dry the dishes,
- the respondent's satisfaction with the agreement on customer visits.

5. The response must be rated on a scale comprising at least three levels, for example, 'insufficiently effective', 'sufficiently effective' or 'very effective'. With regard to how satisfied the test centre is with visit reporting arrangements, the categories must be 'not satisfied', 'satisfied' and 'very satisfied'.

6. At least 80 % must rate the product as sufficiently effective or very effective on all points (see point 4) and be satisfied or very satisfied with customer visiting arrangements.

7. All raw data from the test must be specified.

8. The test procedure must be described in detail.

Proposed criterion 5

Tests shall be carried out to ensure that the product has a satisfactory wash performance at the lowest recommended dosage for the water hardness according to laboratory or user tests. The tests shall be carried out at the water temperature stated in Appendix (to be added) or at the lowest temperature the product claims to be effective at. The test shall be performed by a laboratory complying with Appendix (to be added)

The reference product is tested at the lowest recommended dosage that is stated on the packaging. If no dosage instructions are provided, the same dosage is used as for the test product.

When applying for rinse aids in combination with dishwasher detergents, the rinse aid shall be used in the test instead of the reference rinse aid. For multifunctional products the applicant must submit documentation providing the effect of the claimed functions.

Assessment and verification The applicant shall provide documentation confirming that the product

has been tested under the Appendix (to be added) conditions.

If a laboratory test is performed, information should be provided on:

- (a) Type of spots that are representative for the kind of soiled expected in the areas where the products will be marketed.
- (b) Information on the recommended dosage at the corresponding water hardness and the lowest recommended wash temperature at which the product claims to be effective
- (c) The product's ability to remove soiling from the surfaces or materials and the effectiveness of other products the detergent shall be used with (eg. rinse aids)
- (d) Information about the reference product against which the test product has been tested: market leadership, lowest commended dosage or dosage used (if no information is provided) and temperature, date of purchase and date of testing.
- (e) Documentation confirming the compliance within the laboratory requirements included in Appendix (to be added).

If a user test is performed, the applicant should provide information on:

- (a) the way the test users were selected, all raw data from the tests and the test procedure
- (b) all reply forms received from the test users and the overall result on the wash performance of the user test specified in a table/a form. The response must be rated in accordance with Appendix (to be added)
- (c) information on how satisfied the test centre is with visit reporting arrangements and the categories rated.

Rationale and discussion

The text is proposed to be brought in line with the other EU Ecolabel criteria sets. The rationale behind the methods chosen is included in the Technical Annexe (Section 7.12.1). No content wise changes are proposed and clarifications are proposed covering the following aspects:

- information about how to select the reference product against the EU Ecolabel candidate will be tested,
- minimum requirements the certification institution shall fulfilled,
- a detail list on the information of the testing product the producer claims and on the reference product selected.

4.8.8 Criterion 6: Automatic dosing systems

Current criterion 6

Multi-component systems shall be offered together with an automatic and controlled dosing system.

In order to ensure correct dosage in the automatic dosing systems, customer visits must be incorporated as a normal routine for manufacturers/suppliers. These customer visits are performed at all premises at least once a year during the license period; they must include calibration of the dosage equipment. Also, a third party can perform customer visits.

In exceptional cases, customer visits may be dispensed with if the distance and method of delivery makes the visit impracticable.

Assessment and verification: the applicant shall provide a written description of responsibility for, frequency and content of customer visits.

Proposed criterion 6

Multi-component systems shall be offered together with an automatic and controlled dosing system.

In order to ensure correct dosage in the automatic dosing systems, customer visits must be incorporated as a normal routine for manufacturers/suppliers. These customer visits are performed at all premises at least once a year during the license period; they must include calibration of the dosage equipment. A third party can perform customer visits.

In exceptional cases, customer visits may be dispensed with if the distance and method of delivery makes the visit impracticable.

Assessment and verification: the applicant shall provide a written description of responsibility for, frequency and content of customer visits.

Rationale and discussion

No changes are proposed to this criterion.

Industrial and institutional multi-component systems are difficult to dose as there is more than one product in the system. The use of a well maintained automatically and on-site calibrated dosing system limits the risk of incorrect dosing and, thus, the risk of extra environmental impacts.

Consultation questions

1	Is the criterion on multi-component products relevant to the product group?
---	---

4.8.9 Criterion 7: User information – Information appearing on the EU Ecolabel

Current criterion 7

e) **Information on the packaging/information sheet**

The following recommendations must appear on the packaging, and/or on product information sheet or equivalent:

- Dose according to the degree of soil, and the water hardness. Follow the dosing instructions
- Using this EU Ecolabelled product according to the dosage instructions will contribute to the reduction of water pollution and waste production.

f) **Information appearing on the EU Ecolabel**

The logo should be visible and legible. The use of the EU Ecolabel logo is protected in primary EU law. The EU Ecolabel registration/licence number must appear on the product, it must be legible and clearly visible.

The optional label with text box shall contain the following text:

- reduced impact on aquatic ecosystems,
- limited hazardous substances,
- performance tested.

The guidelines for the use of the optional label with text box can be found in the 'Guidelines for use of the Ecolabel logo' on the website:
http://ec.europa.eu/environment/ecolabel/documents/logo_guidelines.pdf

Assessment and verification (a-b): the applicant shall provide a sample of the product label and/or product sheet, together with a declaration of compliance with this criterion. Product claims shall be documented through appropriate test reports.

Proposed criterion 7 – "User information"

The detergent shall be accompanied by instructions for proper use so as to maximise product performance and minimise waste. These instructions shall be legible or include graphical representation or icons and include information on:

a) dosing instructions

The primary packaging or product information sheet shall include information on the recommended dosage in g or ml for various levels of water hardness and various levels of soiling.

The packaging or product information sheet shall indicate the most prevalent water hardness in the area where the product is intended to be marketed or where this information can be found.

The applicant shall take suitable steps to help consumers respect the recommended dosage, making available a dosage device and/or indicating the recommended dosage in a well-known metric.

b) resource saving measures

The applicant shall recommend washing at the lowest temperature the product claims effectiveness and washing with full loads.

c) packaging disposal information

The primary packaging or product information sheet shall include information on the reuse, recycling and/or correct disposal of packaging.

d) environmental information (voluntary)

The following text is recommended to appear on the primary packaging or product information sheet but its use is voluntary:

"All detergents have an effect on the environment. Always use the correct dose for maximum effectiveness, the lowest recommended temperature. This will minimize both energy and water consumption and reduce water pollution".

Assessment and verification: The applicant shall provide a sample of the product label or product information sheet

Rationale and discussion

Information appearing on the packaging provides useful information on how the user should use the product most effectively to achieve the best cleaning results whilst minimising environmental impacts. The points where information is needed are analysed in the Technical Annexe (Section 7.13.1). Only those points that are relevant for this product group are included in the wording of the criteria.

Consultation questions	
1	Is the change to the dosage instruction wording acceptable?
2	Is a statement on overdosing required as part of the consumer information criterion?
3	Should information on use of renewable energy be included?
4	Should recycling labels be included on dishwasher detergent packaging?
5	Is it appropriate to have the information appearing on the EU Ecolabel as a separate criterion? (N.B. this is a horizontal issue relevant to other product groups)

Proposed criterion 8 – "Information appearing on the EU Ecolabel"

The logo should be visible and legible. The use of the EU Ecolabel logo is protected in primary EU law. The EU Ecolabel registration/licence number must appear on the product, it must be legible and clearly visible.

The optional label with text box shall contain the following text:

- reduced impact on aquatic ecosystems,
- limited hazardous substances,
- performance tested.

Assessment and verification: the applicant shall provide a sample of the product packaging, including the label.

Rationale and discussion

It is proposed to set a separate criterion for the information on the EU Ecolabel to be included on the packaging. This change is in line with what appears on other EU Ecolabel criteria sets that are under revision. The wording is proposed to remain unchanged.

Information on the harmonised text for the Criterion on Information appearing on the EU Ecolabel can be found in the Technical Annexe (Section 7.14).

4.8.10 Criterion NEW - Sustainable sourcing of palm oil, palm kernel oil and their derivatives

Proposed addition

Ingredients used in the product which are derived from palm oil or palm kernel oil must be sourced from plantations that meet the criteria for sustainable management that have been developed by multi-stakeholder organisations who have a broad based membership including NGOs, industry and government.

Assessment and verification: the applicant shall provide third-party certifications that the palm oil used in the manufacturing of the product originates from sustainable managed plantations. Certifications accepted shall include RSPO (by identified preserved, segregates or mass balance) or any equivalent scheme based on multi-stakeholder sustainable management criteria. For chemical derivatives of palm oil it is acceptable to demonstrate sustainability for these through book and claim systems such as GreenPalm or equivalent.

Rationale and discussion

Further information on this criterion can be found in the Technical Annexe (Section 7.15).



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5 ALL PURPOSE CLEANERS AND SANITARY CLEANERS

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5.1 Introduction

The following Technical Report presents a proposal of revised EU Ecolabel criteria for the product group of "all-purpose cleaners and sanitary cleaners" (APC). The study has been carried out by the Joint Research Centre's Institute for Prospective Technological Studies (JRC-IPTS) with technical support from Oakdene Hollins and PRé Consultants. The work is being developed for the European Commission's Directorate General for the Environment.

The recommendations for the revision of the current criteria are based on technical analysis, including a Life Cycle Assessment (LCA) assessing the environmental impacts of products covered by the scope of the product group and other scientific sources, and input received from stakeholders.

This document is complemented by the Preliminary Report⁵⁴ on the revision of the European Ecolabel criteria for All-purpose Cleaners and Sanitary Cleaners and a Technical Annexe. The Preliminary Report covers in detail areas such as: scope and legislative analysis (Task 1), market analysis (Task 2), technical analysis (Task 3) and improvement potential (Task 4). The Technical Annexe is common to all detergent product groups as they share common issues and the revisions of their EU Ecolabel criteria are being done at the same time in order to facilitate harmonisation between criteria, where appropriate.

In all, there are six sets of EU Ecolabel criteria in the detergent product groups. These are:

- laundry detergents (LD),
- industrial and institutional laundry detergents (IILD),
- detergents for dishwashers (DD),
- industrial and institutional automatic dishwasher detergents (IIDD),
- hand dishwashing detergents (HDD),
- all-purpose cleaners and sanitary cleaners (APC).

The present document is specific to the set of criteria related to the EU Ecolabel for all-purpose cleaners and sanitary cleaners. Its main purpose is to summarise the proposed criteria changes as well as provide a brief overview of background information related to each criterion and the rationale behind the proposal. Where these are common for different EU Ecolabel product groups and/or are due to harmonisation efforts, reference is made to a section of the Technical Annexe. Both documents, as well as the Preliminary Report, should be consulted to gain a full understanding of this revision process.

A revision of EU Ecolabel criteria must ensure that, based on impacts of the products covered by the EU Ecolabel for "all-purpose and sanitary cleaners" at all life-cycle stages:

- The existing criteria are still relevant and that appropriately challenging targets, thresholds or usage information are established based on the latest knowledge of market norms, user behaviours, life-cycle impacts and hazards.
- Any new candidates for criteria suggested by either the LCA or the stakeholder survey are adequately considered and evaluation criteria justified.
- Opportunities to rationalise criteria, i.e. remove, simplify and combine (within the group) or harmonise (between product groups), are examined and justified.

The main criteria changes proposed in this report are as follows:

- A change of the name of the EU Ecolabel to "cleaning products" as the current name does not accurately reflect the product groups covered.
- A clarification and extension of the current scope and definition to include ready-to-use and undiluted products in all products groups covered, including window cleaners and sanitary cleaners.
- An update of several criteria with updates values and new values for categories of products that are not covered in the current criteria.

⁵⁴ <http://susproc.jrc.ec.europa.eu/detergents/stakeholders.html>

5.2 Preliminary report – summary and links to the revision and/or development of eu ecolabel criteria

The Preliminary Report presents the research carried out, through stakeholder surveys, market analysis, legal review and an environmental performance investigation, on areas related to the product groups covered by the EU Ecolabel on all-purpose cleaners and sanitary cleaners. The report provides background information that underpins to the new criteria proposals.

The main findings of the Preliminary Report are:

-The *market analysis* reported that the total retail value of the EU market for hard surface cleaning is €5,7 bn. The cleaning market across Europe can be further categorised as all-purpose cleaners (46 %), window/glass cleaners (4 %), sanitary cleaning (36 %) and other ancillary cleaning products (14 %). Consumer choice of cleaning products is driven by ease of use and convenience of the product, price, health and safety during use and efficacy of the product.

-The *technical analysis* found that the key environmental impacts of APCs can be summarised as follows:

- The life cycle stage with the largest contribution to the environmental impact profile of all-purpose cleaners is the ingredient extraction stage. For window/glass cleaners packaging has a larger contribution than ingredient extraction.
- When warm water is used to rinse off the product during use, the use phase has a significant impact. However, this is only relevant for some of the products covered by this product group, such as kitchen cleaners and all-purpose cleaners.
- Based on the normalisation assessment, by far the most important impact category for all-purpose cleaners in Europe is Natural Land Transformation.

The results of the LCA for a general purpose cleaner, conducted as part of the technical analysis (Chapter 4 of the Preliminary Report) are shown in Figure 8. A generic general purpose cleaner was chosen as the representative product for the different product groups covered by the EU Ecolabel as this product type has the largest market share for cleaning products in Europe.

Ingredient extraction is an important contributor to the characterised midpoint results, particularly for the terrestrial ecotoxicity, agricultural land occupation and natural land transformation impact categories. Of all the ingredients, the majority of the environmental impact can be attributed to ethoxylated alcohol surfactants. The manufacturing, use and disposal phases also represent important contributors to the overall environmental impact.

The key environmental performance indicators (KPIs), i.e. those variables that mainly drive the results for APCs in Europe, based on the results of this study, are (not ranked):

- Amount of product used per application,
- Formulation – specifically the choice and amount of surfactant,
- Energy consumed to heat the water (if warm water is used),
- Energy source used to heat the water (if warm water is used).

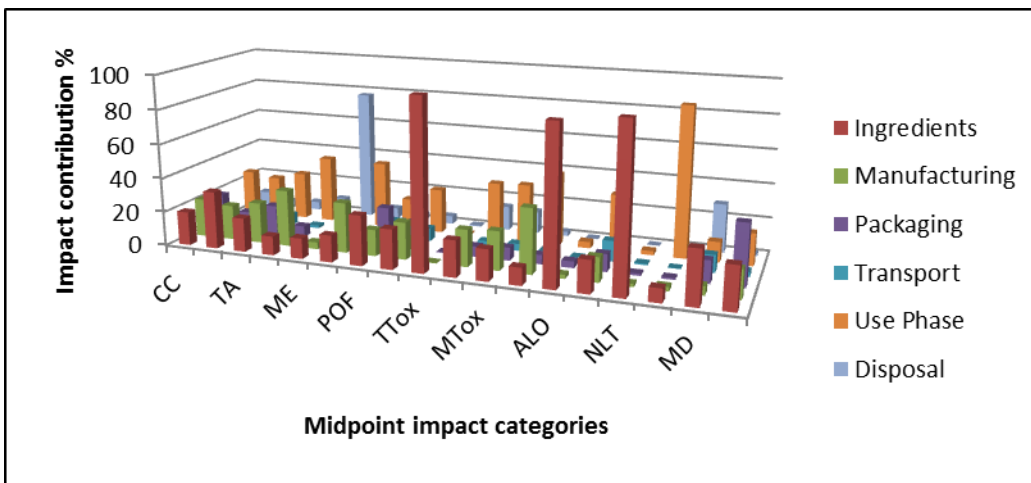


Figure 8: Impact contribution of different life cycle stages of an all-purpose cleaner

Apart from the LCA analysis, a revision of other scientific evidences, current national schemes and legislation have been performed. These sources of information pointed out the potential presence of hazardous substances in the product that can have environmental and health impacts, and these are addressed according to Articles 6.6 and 6.7 of the Regulation EC/66/2010 on the EU Ecolabel⁵⁵.

This document shows the process and the evidences to draft the EU Ecolabel criteria that tackle the mentioned main environmental impacts identified through the LCA analysis and the non-LCA impacts identified by revising other sources. The EU Ecolabel criteria are developed to directly or indirectly address the identified LCA and non-LCA impacts (eg the choice and amount of surfactants is an environmental impact directly addressed through one or several EU Ecolabel criteria while the amount of detergent is indirectly addressed). The "energy source used to heat the water" is the only environmental impact that cannot be addressed through the EU Ecolabel as it is not directly linked to the products; even when consumers can choose the source of energy to heat the water or an electricity provider with a share of renewable energies, this is something out of the scope of what can be promoted through a product environmental label.

Moreover, even though waste generation was not among the top 4 KPIs named previously, it can still have an impact of up to 37% for some environmental aspects. This environmental impact score can even being higher in the case of window cleaners. Given the prevalence of cleaners in everyday life and the fact that they all come with packaging, a relatively small impact can quickly add up; thus, this aspect is also considered in the EU Ecolabel.

Table 30 shows the link between the LCA and non-LCA impacts identified in the Preliminary Report and the revised or newly developed EU Ecolabel criteria.

⁵⁵ Regulation (EC) No 66/2010 of the European Parliament and of the Council of November 25 2009 on the EU Ecolabel

Table 30: Link between the hotspots identified (LCA and non-LCA impacts) and the revised EU Ecolabel criteria

Identified hotspots (LCA and non-LCA impacts)	% of total impact ⁵⁶	Revised or new EU Ecolabel criteria	Comments on the related criteria
Wash temperature	1-88 %	User information	The criterion encourages users to opt for lower water temperatures and to use lower amount of water.
		Fitness for use	It ensures that the product is fit to wash under realistic conditions
		Information appearing on the EU Ecolabel	It informs consumers that the product's performance has been tested at realistic temperature conditions.
Energy sources to heat up the water	1-88 %	--	Out of the framework of this policy tool
Amount of product used per application	8-98 %	User information	It informs users about the amount of product to be used depending on the washing conditions
		Dosage requirement	This criterion limits the amount of product that manufacturers can recommend to users.
Choice and amount of surfactants	8-98 %	Biodegradability	It ensures that surfactants are biodegradable and will not persist in water.
		Restricted substances	It ensures that hazardous surfactants are not included in the bill of materials.
		Phosphorus content	It ensures that limited and restricted types of phosphorus compounds are not included as ingredients, limiting the eutrophication impacts.
		Sustainable Palm oil	It ensures that renewable palm oil surfactants do not cause unnecessary strain on the ecosystem.
Emissions to water	8-98 %	Toxicity to aquatic organisms	It ensures that ingredients are not toxic to the aquatic organisms
		Biodegradability	It ensures that ingredients are not persistent in the water
		Phosphorus content	It ensures that eutrophication due to phosphorus is limited
		Restricted substances	It ensures that hazardous substances do not reach the water (rivers, sea, oceans, etc.)
		Colorants	It ensures that colorants do not accumulate in the water
		Fragrances	It ensures that only a limited amount of ingredients with sensitizing properties is used
		Enzymes	It ensures that enzymes cannot be inhaled limiting health risks for users
		Information appearing on the EU Ecolabel	It informs consumers that the product contains a limited amount of hazardous substances while they are making purchase decisions.
Waste generation	0-36 %	Packaging	It ensures that a limited amount of waste will be generated and that this waste can be recovered.

⁵⁶ Information provided in chapter 5 of the Preliminary Report, although aggregated in a different way, available at: <http://susproc.jrc.ec.europa.eu/detergents/stakeholders.html>

Identified hotspots (LCA and non-LCA impacts)	% of total impact ⁵⁶	Revised or new EU Ecolabel criteria	Comments on the related criteria
		User information	It reminds consumers to dispose the packaging in a responsible manner
Water consumption	Not rated	User information	It encourages users to follow the instruction to dilute the product
Hazardous substances	Not rated	Hazardous substances and mixtures	This criterion limits the hazardous substances and mixtures that can be included in the product limiting environmental and health risks for consumers.
		Ingoing substances listed in accordance with Article 59(1) of Regulation (EC) No 1907/2006	
		Information appearing on the EU Ecolabel	It informs consumers that the product has a limited amount of hazardous substances at purchasing

5.3 Summary of the feedback requested from stakeholders

All-purpose cleaners and sanitary cleaners		
CRITERION / SECTION	QUESTIONS	
Name, definition and scope	1	Should the product group name be changed from 'all-purpose cleaners and sanitary cleaners' to 'cleaning products'?
	2	Do you agree with the proposed changes for the scope? (undiluted window cleaners and sanitary cleaners, limitation to indoor use for all products, etc.)
	3	Should the definition and scope be changed to cover products that are not mixtures of substances?
	4	Should micro-organisms be considered for inclusion in the EU Ecolabel?
	5	Should any other products be included or excluded from the scope?
Measurement thresholds	1	Are any other changes needed to the assessment and verification requirements and measurement thresholds?
Reference dosage	1	Should the reference dosage take water hardness into consideration?
Toxicity to aquatic organisms	1	More information is required from stakeholders in terms of CDV values for all categories and exact formulations.
	2	Does the 2014 DID list update cause major changes to CDV values?
	3	Are the new proposals for CDV values appropriate?
Biodegradability	1	Is the proposed approach to biodegradability suitable for consumer APC?
	2	What would be the appropriate limits for aNBO and anNBO? Could stakeholders please share with the project team data on the amount of aNBO and anNBO organic substances and mixtures in the product groups covered?
Excluded or limited substances and mixtures	1	Are exclusions of other substances required?
	2	Is it technically feasible to formulate APC products without enzymes classified H400?
	3	Could the % limit for classified surfactants be lower?
Phosphorus	1	Should phosphates be banned from this product category?
	2	Are phosphorus compounds used in this product group?
	3	Do you agree with the proposal to allow phosphonates in professional products?
	4	Should these requirements be merged with criterion 3(a) as in other detergent EU Ecolabel products?
Packaging	1	Packaging is not one of the top 4 KPIs for the product groups concerned, should a criterion related to it be kept?
	2	Are the WUR limits appropriate? Especially for trigger sprays.
	3	Is the design for recycling requirement suitable for this product group?
Fit for use	1	Should evaluation of burnt on soil removal be added as an additional requirement of the testing procedure for kitchen cleaners?
	2	Should the number of repetitions required by the testing procedures be increased to 20, in line with HDDs?
User instructions	1	Is the proposed wording clear and an improvement?
Information appearing on the EU Ecolabel	1	Are the proposed statements suitable, illustrative of claims and an improvement?
Professional training	1	Are product information sheets useful for training purposes?

5.4 Criteria structure comparison table

STRUCTURE OF THE CRITERIA	
Current organisation of the EU Ecolabel criteria	Potential changes, modifications or amendments
Criterion 1: Toxicity to aquatic organisms Criterion 2: Biodegradability of organics Criterion 3: Excluded or limited substances and mixtures Criterion 4: Fragrances Criterion 5: Volatile organic compounds Criterion 6: Phosphorus Criterion 7: Packaging requirements Criterion 8: Fitness for use Criterion 9: User instructions Criterion 10: Information appearing on the Ecolabel Criterion 11: Professional training	Criterion 1: Toxicity to aquatic organisms Criterion 2: Biodegradability Criterion 3: Sustainable sourcing of palm oil, palm kernel oil and their derivatives Criterion 4: Excluded or limited substances and mixtures Criterion 4: Volatile organic compounds Criterion 5: Packaging requirements Criterion 6: Fitness for use Criterion 9: User information Criterion 10: Information appearing on the EU Ecolabel
	The proposed changes to the structure reflect the fact that certain criteria are proposed to be merged and an additional criterion is proposed to cover sustainable sourcing of some ingredients.

5.5 Name and definition comparison table

NAME OF THE EU ECOLABEL	
Current name of the EU Ecolabel	Potential changes, modifications or amendments
All-purpose cleaners and sanitary cleaners	Cleaning products
	The proposed name is shorter and covers all product groups covered by the EU Ecolabel, including window cleaners that are not included in the current name.
DEFINITION OF THE PRODUCT GROUP	
<p>The product group 'All-purpose cleaners and sanitary cleaners' shall comprise: all-purpose cleaners, window cleaners, and sanitary cleaners.</p> <p>(a) All-purpose cleaners comprising detergent products intended for the routine cleaning of floors, walls, ceilings, windows and other fixed surfaces, and which are either diluted in water prior to use or used without dilution. All-purpose cleaners shall mean products intended for indoor use in buildings which include domestic, commercial and industrial facilities.</p> <p>(b) Window cleaners comprising specific cleaners intended for the routine cleaning of windows, and which are used without dilution.</p> <p>(c) Sanitary cleaners comprising detergent products intended for the routine removal, including by scouring, of dirt and/or deposits in sanitary facilities, such as laundry rooms, toilets, bathrooms, showers and kitchens. This subgroup thus contains bathroom cleaners and kitchen cleaners.</p> <p>The product group shall cover products for both private and professional use. The products shall be mixtures of chemical substances and must not contain micro-organisms that have been deliberately added by the manufacturer.</p>	<p>(Option 1) The product group 'Cleaning Products' shall comprise: all-purpose-cleaners, window cleaners and sanitary cleaners.</p> <p>a) All-purpose cleaners comprising detergent products intended for routine cleaning of hard surfaces such as walls, floors and other fixed surfaces.</p> <p>b) Window cleaners comprising specific detergents intended for the routine cleaning of windows, glass and other highly polished surfaces.</p> <p>c) Sanitary cleaners comprising detergents products intended for the routine removal, including by scouring, of dirt and/or deposits in sanitary facilities, such as laundry rooms, toilets, bathrooms, showers and kitchens. This subgroup contains WC cleaners, bathroom cleaners and kitchen cleaners.</p> <p>The product group shall cover products for both private and professional use, intended for indoor use and sold either in ready-to-use (to be used without dilution in water) or undiluted form. Products shall be mixtures of chemical substances and must not contain micro-organisms that have been deliberately added by the manufacturer. Wipes containing cleaning agents are not eligible for the EU Ecolabel for cleaning products.</p> <p>(Option 2) The product group 'Cleaning Products' shall comprise: all-purpose-cleaners, window cleaners and sanitary cleaners.</p> <p>d) All-purpose cleaners comprising cleaning products intended for routine cleaning of hard surfaces such as walls, floors and other fixed surfaces.</p>

	<p>e) Window cleaners comprising specific cleaning intended for the routine cleaning of windows, glass and other highly polished surfaces.</p> <p>f) Sanitary cleaners comprising cleaning products intended for the routine removal, including by scouring, of dirt and/or deposits in sanitary facilities, such as laundry rooms, toilets, bathrooms, showers and kitchens. This subgroup contains WC cleaners, bathroom cleaners and kitchen cleaners.</p> <p>The product group shall cover products for both private and professional use, intended for indoor use and sold either in ready-to-use (to be used without dilution in water) or undiluted form. Products shall be mixtures of chemical substances and must not contain micro-organisms that have been deliberately added by the manufacturer. Wipes containing cleaning agents are not eligible for the EU Ecolabel for cleaning products.</p>
	<p>The proposed changes include several clarifications on product that are included and not included in the scope of the EU Ecolabel (i.e. further clarification was added on window cleaners). The scope is also proposed to be expanded to all ready-to-use and undiluted products that fall under the three categories listed. This change has been proposed by stakeholders as undiluted window cleaners and sanitary cleaners exist on the market and, if used correctly, could have lower environmental impacts than their ready-to-use counterparts.</p> <p>A second option is also proposed for the scope in order to cover two types of products – vinegar and products containing micro-organisms. Further research is required to fully understand the implications of expanding the scope to these product groups.</p>

5.6 Comparison of existing and proposed criteria

CRITERIA																	
Existing EU Ecolabel criteria	Potential changes, modifications or amendments																
Criterion 1: Toxicity to aquatic organisms																	
<p>For all-purpose cleaners which are diluted in water prior to use, the CDV_{chronic} shall be calculated on the basis of the dosage in grams of the product recommended by the manufacturer for preparing 1 litre of washing water for cleaning of normally soiled surfaces. The CDV_{chronic} of the recommended dose expressed for 1 litre of washing water shall not exceed 18,000 litres.</p> <p>For all-purpose cleaners which are used without dilution, the CDV_{chronic} for 100 g of the product shall not exceed 52,000 litres.</p> <p>For window cleaners, the CDV_{chronic} for 100 g of the product shall not exceed 4,800 litres.</p> <p>For sanitary cleaners, the CDV_{chronic} for 100 g of the product shall not exceed 80,000 litres.</p> <p>Assessment and verification: the exact formulation of the product shall be provided to the competent body, together with the details of the CDV_{chronic} calculations showing compliance with this Criterion.</p>	<p>The critical dilution volume (CDV) of the product must not exceed the following limits for the reference dosage:</p> <table border="1"> <thead> <tr> <th>Product type</th> <th>Limit CDV</th> </tr> </thead> <tbody> <tr> <td>All-purpose cleaners, RTU</td> <td>52 000</td> </tr> <tr> <td>All-purpose cleaners, undiluted</td> <td>12 200</td> </tr> <tr> <td>Window cleaners, RTU</td> <td>4 800</td> </tr> <tr> <td>Window cleaners, undiluted</td> <td>1 200</td> </tr> <tr> <td>Sanitary cleaners, RTU</td> <td>72 000</td> </tr> <tr> <td>Sanitary cleaners, undiluted</td> <td>18 000</td> </tr> <tr> <td>Toilet (WC) cleaners, RTU</td> <td>80 000</td> </tr> </tbody> </table> <p>Assessment and verification: Calculation of the CDV of the product. A spreadsheet for calculation of the CDV value is available on the EU Ecolabel website.</p> <p>The Critical Dilution Volume (CDV) is calculated for all ingoing substances and mixtures (i) in the product using the following equation:</p> $CDV = \sum CDV(i) = 1000 \cdot \sum dosage(i) \cdot \frac{DF(i)}{TF(i)}$ <p>Where:</p> <p><i>dosage(i)</i>: weight (g) of the substance or mixture <i>i</i> in the reference dose,</p> <p><i>DF(i)</i>: degradation factor for the substance or mixture <i>i</i></p> <p><i>TF(i)</i>: toxicity factor for the substance or mixture <i>i</i></p> <p>The values of <i>DF(i)</i> and <i>TF(i)</i> shall be as given in the DID list Part A (Appendix I). If a substance or mixture is not included in the DID list Part A, the applicant shall estimate the values follow the approach described in the DID list Part B (Appendix I).</p>	Product type	Limit CDV	All-purpose cleaners, RTU	52 000	All-purpose cleaners, undiluted	12 200	Window cleaners, RTU	4 800	Window cleaners, undiluted	1 200	Sanitary cleaners, RTU	72 000	Sanitary cleaners, undiluted	18 000	Toilet (WC) cleaners, RTU	80 000
Product type	Limit CDV																
All-purpose cleaners, RTU	52 000																
All-purpose cleaners, undiluted	12 200																
Window cleaners, RTU	4 800																
Window cleaners, undiluted	1 200																
Sanitary cleaners, RTU	72 000																
Sanitary cleaners, undiluted	18 000																
Toilet (WC) cleaners, RTU	80 000																
	The proposed changes include the addition of CDV limits for the different types of																

cleaning products proposed to be covered by the scope. A separate limit is proposed for toilet cleaners as they are a very specific type of sanitary cleaner with CDV values clearly separate from the other product types under the sanitary cleaner sub-category.

Moreover, new limits are proposed in cases where enough data was gathered that shows that the products present on the market have a CDV value well below the current limits.

Criterion 2: Biodegradability of organics

a) Ready biodegradability (aerobic)

Each surfactant used in the product shall be readily biodegradable.

b) Anaerobic biodegradability

Surfactants that are not biodegradable under anaerobic conditions may be used in the product within specified limitations provided that the surfactants are not classified with H400/R50 (Very toxic to aquatic life) within the limit specified below.

For all-purpose cleaners to be diluted with water prior to use, the total weight of anaerobically non-biodegradable surfactants must not exceed 0.40 g of the recommended dose expressed for 1 litre of washing water.

For all-purpose cleaners to be used without dilution, the total weight of anaerobically non-biodegradable surfactants must not exceed 4.0 g per 100 g product.

For sanitary cleaners, the total weight of anaerobically non-biodegradable surfactants must not exceed 2.0 g per 100 g product.

For window cleaners, the total weight of anaerobically non-biodegradable surfactants must not exceed 2.0 g per 100 g product.

Assessment and verification: the exact formulation of the product as well as a description of the function of each substance shall be provided to the competent body. The DID list-Part A (Appendix I) indicates whether a specific surfactant is anaerobically biodegradable or not (the surfactants with an entry of 'Y' in the column on anaerobic biodegradability are biodegradable under anaerobic conditions). For surfactants which are not included in the DID list-Part A, the relevant information from literature or other sources, or appropriate test results, showing that they are anaerobically biodegradable shall be provided. The reference test for anaerobic degradability shall be OECD 311, ISO 11734, ECETOC No 28 (June 1988) or an equivalent test method, with the requirement of a minimum of 60 % ultimate degradability under anaerobic conditions. Test methods simulating the conditions in a relevant anaerobic environment may also be used to document that 60 % ultimate degradability has been attained under anaerobic conditions.

a) Biodegradability of surfactants

To be discussed at the 1st AHWG meeting.

All surfactants shall be biodegradable under aerobic conditions.

All surfactants shall be biodegradable under anaerobic conditions.

b) Biodegradability of organic substances and mixtures

To be discussed at the 1st AHWG meeting.

The content of organic substances and mixtures in the product that are aerobically non-biodegradable (not readily biodegradable aNBO) or anaerobically non-biodegradable (anNBO) shall not exceed the following limits for the reference dosage:

Product type	aNBO	anNBO
All-purpose cleaners, RTU	x,xx g	x,xx g
All-purpose cleaners, concentrated	x,xx g	x,xx g
Window cleaners, RTU	x,xx g	x,xx g
Window cleaners, concentrated	x,xx g	x,xx g
Sanitary cleaners, RTU	x,xx g	x,xx g
Sanitary cleaners, Concentrated	x,xx g	x,xx g
WC cleaners, RTU	x,xx g	x,xx g

Assessment and verification: The applicant shall provide documentation for the degradability of surfactants, as well as the calculations of aNBO and anNBO for the product. A spreadsheet for use in calculating aNBO and anNBO values is available on the EU Ecolabel website.

For both surfactants and aNBO and anNBO values, reference shall be made to the DID List. For ingredients which are not included in the DID List, the relevant information from literature or other sources, or appropriate test results, showing that they are aerobically and anaerobically biodegradable shall be provided as described in Appendix (to be added).

	<p>In the absence of documentation in accordance with the above requirements, an ingoing substances and mixtures other than a surfactant may be exempted from the requirement for anaerobic degradability if one of the following three alternatives is fulfilled:</p> <ol style="list-style-type: none"> 1. Readily degradable and has low adsorption ($A < 25\%$); 2. Readily degradable and has high desorption ($D > 75\%$); 3. Readily degradable and non-bioaccumulating. <p>Testing for adsorption/desorption may be conducted in accordance with OECD guidelines 106.</p>
	<p>As six EU Ecolabels related to detergents are being revised at the same time and as these products often have similar formulations, it is judicious to consider the harmonisation of their criteria. The current six EU Ecolabel criteria approach the subject using three different approaches and stakeholder consultation has yielded a multitude opinions. It has thus been decided that a discussion during the 1st AHWG meeting will be conducted. As a starting point for the harmonised approach the criterion included in the most recently voted criteria for industrial and institutional products (laundry and dishwasher detergents) is proposed. The criterion will be revised following discussions with stakeholders.</p>
Criterion 3: Excluded or limited substances and mixtures	
<p>a) Specified excluded substances</p> <p>The following ingredients must not be included in the product, either as part of the formulation or as part of any mixture included in the formulation:</p> <ul style="list-style-type: none"> • alkylphenol ethoxylates (APEOs) and derivatives thereof • EDTA (ethylenediaminetetraacetate) • 5-bromo-5-nitro-1,3-dioxane • 2-bromo-2-nitropropane-1,3-diol • diazolinidylurea • formaldehyde • sodium hydroxymethylglycinate • nitro-musks and polycyclic musks, including for example: <ul style="list-style-type: none"> ○ Musk xylene: 5-tert-butyl-2,4,6-trinitro-m-xylene ○ Musk ambrette: 4-tert-butyl-3-methoxy-2,6-dinitrotoluene 	<p>a) The product shall not be formulated or manufactured using any of the following compounds:</p> <ol style="list-style-type: none"> (i) APEO (alkylphenol ethoxylates) and APD (alkylphenol derivatives) (ii) EDTA (ethylenediaminetetraacetate) (iii) 5-bromo-5-nitro-1,3-dioxane (iv) 2-bromo-2-nitropropane-1,3-diol (v) Diazolinidylurea (vi) Formaldehyde (vii) Sodium hydroxymethylglycinate (viii) Nitro-musks and polycyclic musks (ix) Hydroxyisohexyl 3-cyclohexene carboxaldehyde (HICC) (x) Atranol and Chloroatranol (xi) Quaternary ammonium salts that are not readily biodegradable (xii) Fragrance substances subject to the declaration requirement provided for in Regulation (EC) No 648/2004 of the European

- Moskene: 1,1,3,3,5-pentamethyl-4,6-dinitroindan
- Musk tibetine: 1-tert-butyl-3,4,5-trimethyl-2,6-dinitrobenzene
- Musk ketone: 4'-tert-butyl-2',6'-dimethyl-3',5'-dinitroacetaphenone
- HHCB (1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethylcyclopenta(g)-2-benzopyran)
- AHTN (6-acetyl-1,1,2,4,4,7-hexamethyltetralin).

Assessment and verification: the applicant shall provide a declaration supported by declarations from manufacturers of substances, as appropriate, confirming that the listed substances have not been included in the product.

Parliament and of the Council on detergents (Annex VII) and which are not already excluded by criterion 2b shall not be present in quantities $\geq 0.010\%$ (≥ 100 ppm) per substance.

(xiii) Phosphates or phosphorus compounds shall not be included in the product, neither as part of the formulation nor as part of any mixture included in the formulation.

Assessment and verification: the applicant shall provide a declaration supported by declarations from manufacturers of substances, as appropriate, confirming that the listed substances have not been included in the product.

The applicant shall provide documentation showing the biodegradability of any quaternary ammonium salt used.

The applicant shall also provide a declaration from the fragrance manufacturer specifying the content of each of the substances in the fragrances which are listed in Annex III of the Regulation (EC) No 1223/2009.

b) Quaternary ammonium salts

Quaternary ammonium salts that are not readily biodegradable shall not be used, either as part of the formulation or as part of any mixture included in the formulation.

Assessment and verification: the applicant shall provide documentation showing the biodegradability of any quaternary ammonium salt used.

(moved to 3a)

c) Hazardous substances and mixtures

According to the Article 6(6) of Regulation (EC) No 66/2010, the product or any part of it shall not contain substances (in any forms, including nanoforms) meeting criteria for classification with the hazard statements or risk phrases specified below in accordance with Regulation (EC) No 1272/2008 of the European Parliament and of the Council (1) or Council Directive 67/548/EEC (2) nor shall it contain substances referred to in Article 57 of Regulation (EC) No 1907/2006 of the European Parliament and of the Council (3). The risk phrases below generally refer to substances. However, for mixtures of enzymes and fragrances, where information on substances cannot be obtained, the classification rules for mixtures shall be applied.

List of hazard statements:

GHS Hazard Statement	EU Risk Phrase
H300 Fatal if swallowed	R28
H301 Toxic if swallowed	R25
H304 May be fatal if swallowed and enters airways	R65
H310 Fatal in contact with skin	R27

b) According to Article 6(6) of Regulation (EC) No 66/2010, the EU Ecolabel may not be awarded to any product that contains substances meeting criteria for classification with the hazard statements specified in Table 31 in accordance with Regulation (EC) No 1272/2008 of the European Parliament and of the Council or substances referred to in Article 57 of Regulation (EC) No 1907/2006. The hazard statements in Table 31 generally refer to substances. However, if information on substances cannot be obtained, the classification rules for mixtures apply.

Substances or mixtures which change their properties through processing and thus become no longer bioavailable, or undergo chemical modification in a way that removes the previously identified hazard are exempted from criterion 3(b).

Table 31: Hazard statements

GHS Hazard Statement
H300 Fatal if swallowed
H301 Toxic if swallowed

H311 Toxic in contact with skin	R24	H304 May be fatal if swallowed and enters airways
H330 Fatal if inhaled	R23/26	H310 Fatal in contact with skin
H331 Toxic if inhaled	R23	H311 Toxic in contact with skin
H340 May cause genetic defects	R46	H330 Fatal if inhaled
H341 Suspected of causing genetic defects	R68	H331 Toxic if inhaled
H350 May cause cancer	R45	H340 May cause genetic defects
H350i May cause cancer by inhalation	R49	H341 Suspected of causing genetic defects
H351 Suspected of causing cancer	R40	H350 May cause cancer
H360F May damage fertility	R60	H350i May cause cancer by inhalation
H360D May damage the unborn child	R61	H351 Suspected of causing cancer
H360FD May damage fertility. May damage the unborn child	R60-61	H360F May damage fertility
H360Fd May damage fertility. Suspected of damaging the unborn child	R60-63	H360D May damage the unborn child
H360Df May damage the unborn child. Suspected of damaging fertility	R61-62	H360FD May damage fertility. May damage the unborn child
H361f Suspected of damaging fertility	R62	H360Fd May damage fertility. Suspected of damaging the unborn child
H361d Suspected of damaging the unborn child	R63	H360Df May damage the unborn child. Suspected of damaging fertility
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.	R62-63	H361f Suspected of damaging fertility
H362 May cause harm to breast fed children	R64	H361d Suspected of damaging the unborn child
H370 Causes damage to organs	R39/23; R39/24; R39/25; R39/26; R39/27; R39/28	H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
H371 May cause damage to organs	R68/20; R68/21; R68/22	H362 May cause harm to breast fed children
H372 Causes damage to organs through prolonged or repeated exposure	R48/25; R48/24; R48/23	H370 Causes damage to organs
H373 May cause damage to organs through prolonged or repeated exposure	R48/20; R48/21; R48/22	H371 May cause damage to organs
H400 Very toxic to aquatic life	R50	H372 Causes damage to organs through prolonged or repeated exposure
H410 Very toxic to aquatic life with long-lasting effects	R50-53	H373 May cause damage to organs through prolonged or repeated exposure
H411 Toxic to aquatic life with long-lasting effects	R51-53	H400 Very toxic to aquatic life
H412 Harmful to aquatic life with long-lasting effects	R52-53	H410 Very toxic to aquatic life with long-lasting effects
H413 May cause long-lasting harmful effects to aquatic life	R53	H411 Toxic to aquatic life with long-lasting effects
EUH059 Hazardous to the ozone layer	R59	H412 Harmful to aquatic life with long-lasting effects
		H413 May cause long-lasting harmful effects to aquatic life
		EUH059 Hazardous to the ozone layer
		EUH029 Contact with water liberates toxic gas
		EUH031 Contact with acids liberates toxic gas
		EUH032 Contact with acids liberates very toxic gas
		EUH070 Toxic by eye contact
		H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
		H317: May cause allergic skin reaction
		This criterion applies to all ingredients present in concentrations ≥ 0.01 %, including

EUH029 Contact with water liberates toxic gas	R29
EUH031 Contact with acids liberates toxic gas	R31
EUH032 Contact with acids liberates very toxic gas	R32
EUH070 Toxic by eye contact	R39-41
Sensitising substances	
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled	R42
H317: May cause allergic skin reaction	R43

Substances or mixtures which change their properties upon processing (e.g. become no longer bioavailable, undergo chemical modification) so that the identified hazard no longer applies are exempted from the above requirement.

Derogations: the following substances or mixtures are specifically exempted from this requirement:

Surfactants in concentrations <25 % in the product (*)	H400 Very toxic to aquatic life	R50
Surfactants in concentrations <25 % in the product(**)	H412 Harmful to aquatic life with long-lasting effects	R52-53
Fragrances	H412 Harmful to aquatic life with long-lasting effects	R52-53
Enzymes(***)	H317: May cause allergic skin reaction	R43
	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled	R42
NTA as an impurity in MGDA and GLDA(****)	H351 suspected of causing cancer	R40

(*) The percentage must be divided by the M-factor established in accordance with the Regulation (EC) No 1272/2008.

(**) This derogation is applicable provided that they are ready degradable and anaerobically degradable.

(***) Including stabilisers and other auxiliary substances in the preparations.

(****) In concentrations lower than 1.0 % in the raw material as long as the total concentration in the final product is lower than 0.10 %.

preservatives, colouring agents and fragrances.

For consumer cleaning products, the substances in Table 32 are exempted from the obligation in Article 6(6) of Regulation (EC) No 66/2010 following application of Article 6(7) of the same Regulation.

Table 32: Derogated substances - To be discussed in the 1st AHWG meeting

Assessment and verification: the applicant shall demonstrate compliance with criterion x (b) for any ingoing substance or mixture present at concentrations greater than 0,010% in the product.

A declaration of compliance shall be provided by the applicant supported, where appropriate, by the declarations from producer(s) of the raw materials that none of these ingoing substances and/or mixtures meet the criteria for classification with one or more of hazard statements listed in Table 31 in the form(s) and physical state(s) they are present in the product.

The following technical information related to the form(s) and physical state(s) of the ingoing substances and/or mixtures as present in the product shall be provided to support the declaration of non-classification:

(i) For substances that have not been registered under Regulation (EC) No 1907/2006 and/or which do not yet have a harmonised CLP classification: Information meeting the requirements listed in Annex VII to that Regulation;

(ii) For substances that have been registered under Regulation (EC) No 1907/2006 and which do not meet the requirements for CLP classification: Information based on the REACH registration dossier confirming the non-classified status of the substance;

(iii) For substances that have a harmonised classification or are self-classified: safety data sheets where available. If these are not available or the substance is self-classified then information shall be provided relevant to the substances hazard classification according to Annex II to Regulation (EC) No 1907/2006;

(iv) In the case of mixtures: safety data sheets where available. If these are not available then calculation of the mixture classification shall be provided according to the rules under Regulation (EC) No 1272/2008 together with information relevant to the mixtures hazard classification according to Annex II to Regulation (EC) No 1907/2006.

For substances listed in Annexes IV and V to Regulation (EC) No 1907/2006, which are exempted from registration obligations under point (a) and (b) of Article 2(7) of

<p>Assessment and verification: the applicant shall provide the exact formulation of the product to the competent body. The applicant shall demonstrate compliance with this Criterion for substances in the product on the basis of information consisting as a minimum of that specified in Annex VII to the Regulation (EC) No 1907/2006. Such information shall be specific to the particular form of the substance, including nanoforms, used in the product. For that purpose, the applicant shall provide a declaration of compliance with this Criterion, together with a list of ingredients and related Safety Data Sheets in accordance with Annex II to Regulation (EC) No 1907/2006 for the product as well as for all substances listed in the formulation(s). Concentration limits shall be specified in the Safety Data Sheets in accordance with Article 31 of Regulation (EC) No 1907/2006.</p>	<p>that Regulation, a declaration to this effect by the applicant shall suffice to comply with criterion 3(b).</p> <p>A declaration on the presence of ingoing substances that fulfil the derogation conditions shall be provided by the applicant, supported, where appropriate, by declarations from the producer(s) of the raw materials. Where required for the derogation, the applicant shall confirm the concentrations of these ingoing substances in the final product.</p>
<p>d) Substances listed in accordance with Article 59(1) of Regulation (EC) No 1907/2006</p> <p>No derogation from the exclusion in Article 6(6) shall be given concerning substances identified as substances of very high concern and included in the list foreseen in Article 59 of Regulation (EC) No 1907/2006 present in mixtures in concentrations higher than 0.010 %.</p> <p>Assessment and verification: the list of substances identified as substances of very high concern and included in the candidate list in accordance with Article 59 of Regulation (EC) No 1907/2006 can be found here:</p> <p>http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp</p> <p>Reference to the list shall be made on the date of application.</p> <p>Concentration limits shall be specified in the safety data sheets in accordance with Article 31 of Regulation (EC) No 1907/2006.</p>	<p>c) Substances listed in accordance with Article 59(1) of Regulation (EC) No 1907/2006</p> <p>No derogation from the exclusion in Article 6(6) shall be given concerning substances identified as substances of very high concern and included in the list foreseen in Article 59 of Regulation (EC) No 1907/2006 present in mixtures in concentrations higher than 0.010 %.</p> <p>Assessment and verification: the list of substances identified as substances of very high concern and included in the candidate list in accordance with Article 59 of Regulation (EC) No 1907/2006 can be found here:</p> <p>http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp</p> <p>Reference to the list shall be made on the date of application.</p> <p>Concentration limits shall be specified in the safety data sheets in accordance with Article 31 of Regulation (EC) No 1907/2006.</p>
<p>e) Biocides</p> <ul style="list-style-type: none"> (vii) The product may only include biocides in order to preserve the product, and in the appropriate dosage for this purpose alone. This does not refer to surfactants, which may also have biocidal properties (viii) It is prohibited to claim or suggest on the packaging or by any other communication that the product has an antimicrobial action (ix) Biocides, either as part of the formulation or as part of any mixture included in the formulation, that are used to preserve the product and that are classified H410/R50-53 or H411/R51-53 in accordance with Directive 67/548/EEC, Directive 1999/45/EC of the European Parliament and of the Council (1) or Regulation (EC) No 1272/2008, are permitted but only if their bioaccumulation potentials are characterised by log Kow (log 	<p>d) Biocides</p> <ul style="list-style-type: none"> (x) The product may contain preservatives provided that they are not bioaccumulating. A preservative is not considered bioaccumulating if BCF < 100 or logPow < 3,0. If both BCF and log Kow values are available, the highest measured BCF value shall be used. (xi) Preservatives in the product shall not release or degrade to substances that are classified in accordance with the requirements of Criterion x(b) on hazardous substances and mixtures. (xii) It is prohibited to claim or suggest on the packaging or by any other communication that the product has an antimicrobial action.

<p>octanol/water partition coefficient) < 3.0 or an experimentally determined bioconcentration factor (BCF) ≤ 100.</p> <p>Assessment and verification: the applicant shall provide copies of the material safety data sheets for all biocides, together with a documentation of the concentrations of the biocides in the final product.</p>	<p>Assessment and verification: the applicant shall provide a signed declaration of compliance, together with copies of the safety data sheets of any preservative added, and information on its BCF and/or log K_{ow} values. The applicant shall provide also artwork of the packaging.</p>
	<p>The proposed changes mainly aim to consolidate the list of excluded substances as it can be found right now. As fragrances are proposed to no longer be treated in a separate criterion, the excluded fragrances are included in the list. Stakeholder feedback indicated that quaternary ammonium salts are still an issue in detergents, and thus all non-readily biodegradable quaternary ammonium salts are on the list of excluded substances.</p> <p>It is also proposed to remove the requirement for biocides to only be included for preservation purposes as it is impossible for competent bodies to verify the compliance with this type of requirement. It is also proposed to consider the substances that are released as biocides degrade.</p>
	<p>(f) Colorants</p> <p>Colorants in the product must not be bioaccumulating. A colorant is considered not bioaccumulating if BCF < 100 or logPow < 3,0. If both BCF and log K_{ow} values are available, the highest measured BCF value shall be used. In the case of colouring agents approved for use in food, it is not necessary to submit documentation of bioaccumulation potential.</p> <p>Assessment and verification: the applicant shall provide copies of the safety data sheets of any colorant added together with information on its BCF and/or log K_{ow} value, or documentation to ensure that the colouring agent is approved for use in food.</p>
	<p>(g) Enzymes</p> <p>Enzymes shall be in liquid form or dust-free granulate. Enzymes must be free from micro-organism remnants from manufacture.</p> <p>Assessment and verification: the applicant shall provide copies of the material safety data sheets of any enzyme added, together with documentation to ensure that the enzyme is free from micro-organism remnants.</p>
	<p>The proposed changes aim at harmonising the requirements on detergent ingredients, here colorants and enzymes, across the six detergent product groups. The requirement for colorants not to be bioaccumulating is in line with the</p>

requirement included for ROCs. Further, the use of enzymes is increasing and they should not render the product unsafe for users.

Criterion 4: Fragrances

- a) The product shall not contain perfumes containing nitro-musks or polycyclic musks (as specified in Criterion 3 (a)).
- b) Any substance added to the product as a fragrance must have been manufactured and/or handled in accordance with the code of practice of the International Fragrance Association. The code can be found on IFRA website: <http://www.ifraorg.org>
- c) Fragrance substances subject to the declaration requirement provided for in Regulation (EC) No 648/2004 (Annex VII) and which are not already excluded by Criterion 3(c) and (other) fragrance substances classified H317/R43 (May cause allergic skin reaction) and/or H334/R42 (May cause allergy or asthma symptoms or breathing difficulties if inhaled) shall not be present in quantities $\geq 0.010\%$ (≥ 100 ppm) per substance.

Assessment and verification: the applicant shall provide a declaration of compliance with each part of Criteria (a) and (b). For Criterion (c), the applicant shall provide a signed declaration of compliance indicating the amount of fragrances in the product. The applicant shall also provide a declaration from the fragrance manufacturer specifying the content of each of the substances in the fragrances which are listed in Annex III, Part I to Council Directive 76/768/EEC (12) as well as the content of (other) substances which have been assigned the risk phrases R43/H317 and/or R42/H334.

Criterion 3(e): Fragrances

Any ingoing substance or mixture added to the product as a fragrance shall be manufactured and handled following the code of practice of the International Fragrance Association (IFRA). The code can be found on the IFRA website: <http://www.ifraorg.org>. The recommendations of the IFRA Standards concerning prohibition, restricted use and specified purity criteria for materials shall be followed by the manufacturer.

Assessment and verification: the applicant shall provide a signed declaration of compliance, supported by a declaration of the fragrance manufacturer, as appropriate.

It is proposed to move the requirements related to fragrances from Criterion 4 to Criterion 3(e). No content-wise modifications are proposed.

Criterion 5: Volatile organic compounds

The final products of all-purpose cleaners and sanitary cleaners (as sold) shall not contain more than 6 % (by weight) of volatile organic compounds with a boiling point lower than 150 °C. Alternatively, for concentrated products to be diluted in water, the total concentration of volatile organic compounds with a boiling point lower than 150 °C shall not exceed 0.2 % (by weight) in the washing water.

The final products of window cleaners (as sold) shall not contain more than 10 % (by weight) of volatile organic compounds with a boiling point lower than 150 °C.

Assessment and verification: the applicant shall provide copies of the material safety data sheets of each organic solvent together with details of the calculations of the total concentration of volatile organic compounds with a boiling point lower than 150 °C.

Volatile organic compounds (VOC) are defined any organic compound (compound which contains carbon) with a vapour pressure greater than 0,01 kPa at 1 atm and 20°C. The products shall not exceed the following limits of VOC:

Product type	VOC limit (% weight)
All-purpose cleaners, RTU	6 % of product as sold
All-purpose cleaners, undiluted	0,2 % of product as diluted in washing water
Window cleaners, RTU	10 % of product as sold
Window cleaners, undiluted	0,3 % of product as diluted in washing water
Sanitary cleaners, RTU	6 % of product as sold
Sanitary cleaners, undiluted	0,2 % of product as diluted in washing water
Toilet (WC) Cleaners, RTU	6 % of product as sold

	<p>Assessment and verification: the applicant shall provide copies of the material safety data sheets of each organic solvent together with details of the calculations of the total concentration of volatile organic compounds.</p>
	<p>The proposed changes for this criterion include an updated definition of VOCs. Values are also proposed for the new product groups covered by the proposed expanded scope of the EU Ecolabel.</p>
<p>Criterion 6: Phosphorus</p>	
<p>The total quantity of elemental phosphorous in the product shall be calculated on the basis of the dosage of the product recommended by the manufacturer for preparing 1 litre of washing water for cleaning of normally soiled surfaces (for products diluted in water prior to use) or per 100 g of product (for products used without dilution) taking into account all substances containing phosphorus (e.g. phosphates and phosphonates).</p> <p>For all-purpose cleaners, which are diluted in water prior to use, the total phosphorus content (P) shall not exceed 0.02 g of the dosage of the product recommended by the manufacturer for 1 litre of washing water.</p> <p>For all-purpose cleaners, which are used without dilution, the total phosphorus content (P) shall not exceed 0.2 g per 100 g of product.</p> <p>For sanitary cleaners, the total phosphorus content (P) shall not exceed 1.0 g per 100 g of product.</p> <p>Substances used in window cleaners must not contain phosphorus.</p> <p>Assessment and verification: the applicant shall provide the exact formulation of the product to the competent body, together with the details of the calculations showing compliance with this Criterion.</p>	<p>Criterion X(h) – Phosphorus content</p> <p>Phosphonates may be included in products intended for professional use but not exceeding concentrations on 0,5% by weight.</p> <p>Assessment and verification: the applicant shall provide the exact formulation of the product to the competent body, together with the details of the calculations showing compliance with this Criterion.</p>
	<p>Stricter limits on phosphorus content is proposed as phosphorus-free products already exist on the market and phosphorus plays a smaller role in the types of cleaning products covered this EU Ecolabel (that means all-purpose cleaners, sanitary and kitchen cleaners and window cleaners) than in laundry and dishwasher detergents.</p>
<p>Criterion 7: Packaging requirements</p>	
<p>a) Sprays containing propellants must not be used.</p> <p>b) Plastic materials that are used for the main container shall be marked in accordance with the European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging waste (1), or DIN 6120 Parts 1 and 2 in connection with DIN 7728 Part 1.</p> <p>c) If the primary packaging is made of recycled material, any indication of this on the packaging</p>	<p>e) Products sold in spray bottles</p> <p>Sprays containing propellants must not be used. Products packaged in trigger sprays must be sold as a part of a refillable system.</p> <p>Assessment and verification: the applicant or retailer shall document that refills shall be available for purchase on the market.</p>

shall be in conformity with the ISO 14021 standard 'Environmental labels and declarations – Self declared claims (type II environmental Labelling).

- d) Products packaged in trigger sprays must be sold as a part of a refillable system.
- e) Only phthalates that at the time of applications have been risk assessed and have not been classified according to criterion 3(c) may be used in the plastic packaging.
- f) The weight utility ratio (WUR) of the primary packaging must not exceed the following values:

Product type	WUR
Concentrated products, including liquid concentrates and solids, that are diluted in water prior to use	1.20 gram packaging per litre use solution (washing water)
Ready-to-use products, i.e. products used without further dilution	150 gram packaging per litre use solution (washing water)

Assessment and verification: the applicant shall provide a calculation of the WUR of the product to the competent body, together with a declaration of compliance with each part of this Criterion. For Criterion (e) the applicant shall provide completed and signed declaration of compliance.

f) Weight/utility ratio (WUR)

The weight/utility ratio (WUR) of the product shall be calculated for the primary packaging only and shall not exceed the following values for the reference dosage:

Product type	WUR
Undiluted products	1,2 g
RTU products	15,0 g
RTU products sold in bottles with trigger sprays	20,0 g

Are exempted from this requirement:

- Plastic/paper/cardboard packaging containing more than 80 % recycled materials,
- Paper/cardboard packaging that comes 80% from certified sustainable sources,
- Plastic packaging containing more than 80 % plastic from sustainable sources.

Assessment and verification: the applicant shall provide the calculation of the WUR of the product. A spreadsheet for this calculation is available on the EU Ecolabel website. If the product is sold in different packaging (i.e. with different volumes), the calculation shall be submitted for each packaging size for which the EU Ecolabel shall be awarded.

The applicant shall provide a completed and signed declaration for the content of recycled material in the packaging.

- For paper and cardboard, packaging is regarded as recycled if the raw material used to make the packaging has been collected from packaging manufacturers at the distribution stage or at the consumer stage. Where the raw material is industrial waste from the material manufacturer's own production process, then the material will not be regarded as recycled.

- For plastic, packaging is regarded as recycled if the raw material used to make the packaging comes from industrial waste or has been collected from packaging manufacturer at the distribution or at the consumer stage.

The applicant shall provide a completed and signed declaration for the content of sustainably sourced material in the packaging. For paper and cardboard, the applicant shall provide TBD. For plastic, the applicant shall provide TBD.

The WUR is calculated as follows:

$$WUR = \sum ((W_i + U_i) / (D_i * R_i))$$

Where:

W_i: weight (g) of the primary packaging (i),
U_i: weight (g) of non-recycled and non-sustainably sourced packaging in the primary packaging (i). $U_i = W_i$ unless the applicant can document otherwise,
D_i: number of reference doses contained in the primary packaging (i),
R_i: number of times that the primary packaging (i) can be refilled and used for the same purpose. $R_i = 1$ (packaging is not reused for the same purpose) unless the applicant can document a higher number.

g) Design for recycling

Plastic packaging shall be designed to facilitate effective recycling by avoiding potential contaminants and incompatible materials that are known to impede separation or reprocessing or to reduce the quality of recycle. The label or sleeve, closure and, where applicable, barrier coatings shall not comprise, either singularly or in combination the materials and components listed in Table 33. Pumps and spray triggers are exempted from this requirement.

Table 33: Materials and components excluded from packaging elements

Packaging element	Excluded materials and components ⁵⁷
Label or sleeve	<ul style="list-style-type: none"> - PS label or sleeve in combination material used with a PET, PP or HDPE bottle - PVC label or sleeve in combination with a PET, PP or HDPE bottle - PETG label or sleeve in combination with a PET bottle - Sleeves made of different polymer than the bottle - Labels or sleeves that are metallised or are welded to a packaging body (in mould labelling)
Closure	<ul style="list-style-type: none"> - PS closure in combination a with a PET, HDPE or PP bottle - PVC closure in combination with a PET, PP or HDPE bottle - PETG closures and/or closure material with density of above 1 g/cm³ in combination with a PET bottle - Closures made of metal, glass, EVA - Closures made of silicone. Exempted are silicone closures with a density < 1 g/cm³ in combination with a PET bottle and silicone closures with a density > 1g/cm³ in combination with PEHD or PP bottle - Metallic foils or seals which remain fixed to the bottle or its closure after the product has been opened

⁵⁷ EVA – Ethylene Vinyl Acetate, EVOH – Ethylene vinyl alcohol, HDPE – High-density polyethylene, PET – Polyethylene terephthalate, PETG – Polyethylene terephthalate glycol-modified, PP – Polypropylene, PS – Polystyrene, PVC – Polyvinylchloride

	<table border="1"> <tr> <td>Barrier coatings</td> <td>Polyamide, EVOH, functional polyolefins, metallised and light blocking barriers</td> </tr> </table>	Barrier coatings	Polyamide, EVOH, functional polyolefins, metallised and light blocking barriers
Barrier coatings	Polyamide, EVOH, functional polyolefins, metallised and light blocking barriers		
	<p>Assessment and verification: The applicant shall submit a signed declaration of compliance specifying the material composition of the packaging including the container, label or sleeve, adhesives, closure and barrier coating, and a sample of primary packaging.</p> <p>The proposed changes mainly concern the differentiation of packaging containing trigger sprays and other RTU packaging. This change has been requested as the current limits greatly reduced the number of products that could seek an EU Ecolabel.</p> <p>Sustainably sourced raw materials are also proposed to be further promoted through WUR reductions. The recyclability of packaging is also proposed to be promoted by limiting combinations of materials that can hinder the recycling process.</p>		
Criterion 8: Fitness for use			
<p>The product shall be fit for use, meeting the needs of the consumers.</p> <p>a) All-purpose cleaners and window cleaners For all-purpose cleaners, only fat-removing effects must be documented. For window cleaners, stripe-less drying must be documented The cleaning ability must be equivalent to or better than that of a market-leading or generic reference product, approved by a competent body. . Assessment and verification: the performance of the product must either be tested by:</p> <ul style="list-style-type: none"> • an adequate and justifiable laboratory test, or • an adequate and justifiable consumer test. <p>Both tests must be carried out and reported within specified parameters as stated in the framework described in 'Framework for testing the performance of all-purpose cleaners, window cleaners and sanitary cleaners' that can be found here: http://ec.europa.eu/environment/ecolabel/ecolabelled_products/categories/purpose_cleaners_en.htm</p> <p>b) Sanitary cleaners Sanitary cleaners include bathroom cleaners, toilet cleaners and kitchen cleaners. For bathroom cleaners, both limesoap and limescale removal shall be documented. For acidic toilet cleaners, only limescale removal shall be documented. For kitchen cleaners fat removing effects shall be documented. The cleaning ability must be equivalent to or better than that of generic reference detergent specified below. Assessment and verification: the performance of the product must either be tested by:</p> <ul style="list-style-type: none"> • an adequate and justifiable laboratory test, or 	<p>The product shall be fit for use, meeting the needs of the consumers.</p> <p>a) All-purpose cleaners and window cleaners For all-purpose cleaners, only fat-removing effects must be documented. For window cleaners, stripe-less drying must be documented. The cleaning ability must be equivalent to or better than that of a market-leading or generic reference product, approved by a competent body. Assessment and verification: the performance of the product must either be tested by:</p> <ul style="list-style-type: none"> • an adequate and justifiable laboratory test, or • an adequate and justifiable consumer test. <p>Both tests must be carried out and reported within specified parameters as stated in the framework described in 'Framework for testing the performance of all-purpose cleaners, window cleaners and sanitary cleaners' that can be found here: http://ec.europa.eu/environment/ecolabel/documents/performance_test_cleaners.pdf</p> <p>b) Sanitary cleaners Sanitary cleaners include bathroom cleaners, toilet cleaners and kitchen cleaners. For bathroom cleaners, both limesoap and limescale removal shall be documented. For acidic toilet cleaners, only limescale removal shall be documented. For kitchen cleaners fat removing effects and evaluation of burnt-on soil removal shall be documented. The cleaning ability must be equivalent to or better than that of generic reference detergent specified below.</p>		

<ul style="list-style-type: none"> • an adequate and justifiable consumer test. <p>Both tests must be carried out and reported within specified parameters as stated in the framework described in 'Framework for testing the performance of all-purpose cleaners, window cleaners and sanitary cleaners'. The generic reference detergent shall be the one prescribed in IKW performance test 'Recommendation for the quality assessment of acidic toilet cleaners' (SÖFW-Journal, 126, 11, pp. 50-56, 2000). The reference detergent is applicable for toilet cleaners and bathroom cleaners; however the pH must be reduced to 3.5 for the testing of bathroom cleaners. The IKW performance test 'Recommendation for the quality assessment of acidic toilet cleaners' (SÖFW-Journal, 126, 11, pp. 50-56, 2000) can be downloaded from http://www.ikw.org/pdf/broschueren/EQ_WC_Reiniger_Englisch.pdf</p>	<p>Assessment and verification: the performance of the product must either be tested by:</p> <ul style="list-style-type: none"> • an adequate and justifiable laboratory test, or • an adequate and justifiable consumer test. <p>Both tests must be carried out and reported within specified parameters as stated in the framework described in 'Framework for testing the performance of all-purpose cleaners, window cleaners and sanitary cleaners'. The generic reference detergent shall be the one prescribed in IKW performance test 'Recommendation for the quality assessment of acidic toilet cleaners' (SÖFW-Journal, 126, 11, pp. 50-56, 2000). The reference detergent is applicable for toilet cleaners and bathroom cleaners; however the pH must be reduced to 3.5 for the testing of bathroom cleaners. The IKW performance test 'Recommendation for the quality assessment of acidic toilet cleaners' (SÖFW-Journal, 126, 11, pp. 50-56, 2000) can be downloaded from http://www.ikw.org/fileadmin/content/downloads/Haushaltspflege/HP_EQ-WC-Reiniger-Englisch.pdf</p>
	<p>In the current revision, no significant changes are proposed to this criterion. A new requirement is proposed for kitchen cleaners concerning the removal of burnt-on soils.</p>
<p>Criterion 9: User instructions</p>	
<p>a) Dosage instructions</p> <p>Information on the recommended dosage of all-purpose cleaners and sanitary cleaners shall appear on the packaging in a reasonably sufficient size and against a visible background. In the case of a concentrated product, it shall be clearly indicated on the packaging that only a small quantity of the product is needed compared to normal (i.e. diluted) products.</p> <p>The following text (or equivalent text) shall appear on the packaging: <i>'Proper dosage saves costs and minimises environmental impacts'</i>.</p> <p>The following text (or equivalent text) shall appear on the packaging of ready-to-use all-purpose cleaners: <i>'The product is not intended for large-scale cleaning'</i>.</p> <p>b) Safety advice</p> <p>The following safety advice (or equivalent) shall appear on the product in text or as pictogram:</p> <ul style="list-style-type: none"> • 'Keep away from children', • 'Do not mix different cleaners', 	<p>The detergent shall be accompanied by instructions for proper use so as to maximise product performance and minimise waste. These instructions shall be legible or include graphical representation or icons and include information on:</p> <p>a) dosing instructions</p> <p>The primary packaging shall include information on the recommended dosage and dilution instructions:</p> <ul style="list-style-type: none"> -For ready-to-use products: in ml or other relevant and well-known metric per application. The following text (or equivalent) shall appear on the packaging of ready-to-use products: 'The product is intended only for small or limited cleaning tasks. For extensive cleaning operations use a concentrated formulation.' -For undiluted products: in ml or other relevant and well-known metric per application, with instructions on dilution volumes. <p>The following text (or equivalent text) shall appear on packaging for all products: "Proper dosage saves costs and minimises environmental impacts".</p> <p>b) safety advice</p> <p>The following safety advice (or equivalent) shall appear on the product in text or as pictogram:</p> <ul style="list-style-type: none"> - 'Keep away from children',

<ul style="list-style-type: none"> • ‘Avoid inhaling sprayed product’ (only for products that are packaged as sprays). <p>Assessment and verification: the applicant shall provide a sample of the product packaging, including the label to the competent body, together with a declaration of compliance with each part of this Criterion</p>	<ul style="list-style-type: none"> – ‘Do not mix different cleaners’, – ‘Avoid inhaling sprayed product’ (only for products that are packaged as sprays). <p>c) resource saving measures</p> <p>An indication on the primary packaging shall encourage users to use cold tap water, if applicable.</p> <p>d) packaging disposal information</p> <p>The primary packaging shall include information on the reuse, recycling and/or correct disposal of packaging.</p> <p>e) environmental information (voluntary)</p> <p>The following text is recommended to appear on the primary packaging but its use is voluntary: "All detergents have an effect on the environment. Always use the correct dose for maximum effectiveness, the lowest recommended temperature. This will minimize both energy and water consumption and reduce water pollution".</p> <p>Assessment and verification: The applicant shall provide a sample of the product packaging, including the label.</p>
	<p>The proposed changes include clarified indications on the dosage, as well as proposals for indications related to packaging and other environmental information. .</p>
<p>Criterion 10: Information appearing on the Ecolabel</p>	
<p>Optional label with text box shall contain the following text: ‘— reduced impact on aquatic life, — reduced use of hazardous substances, — reduced packaging waste, — clear user instructions.’</p> <p>The guidelines for the use of the optional label with text box can be found in the ‘Guidelines for the use of the EU Ecolabel logo’ on the website: http://ec.europa.eu/environment/ecolabel/promo/logos_en.htm</p> <p>Assessment and verification: the applicant shall provide a sample of the label, together with a declaration of compliance with this Criterion.</p>	<p>The logo should be visible and legible. The use of the EU Ecolabel logo is protected in primary EU law. The EU Ecolabel registration/licence number must appear on the product, it must be legible and clearly visible.</p> <p>The optional label with text box shall contain the following text:</p> <ul style="list-style-type: none"> • reduced impact on aquatic ecosystems • limited hazardous substances • performance tested <p>Assessment and verification: The applicant shall provide a sample of the product packaging, including the label.</p>
	<p>The proposed change aims at bringing the wording in line with other EU Ecolabel detergents and the information that the EU logo claims.</p>

Criterion 11: Professional training

For detergents, which are used by professional users, the producer, its distributor or a third party shall offer training or training materials for cleaning staff. These shall include step-by-step instructions for proper dilution, use, disposal and the use of equipment.

Assessment and verification: a sample of training material containing step-by-step instructions for proper dilution, use, disposal and the use of equipment and a description of training courses shall be provided to the competent body.

a) [Alternative 1 \(to be discussed during the first AHWG meeting\)](#)

For detergents, which are used by professional users, the producer, its distributor or a third party shall offer training or training materials for cleaning staff. These shall include step-by-step instructions for proper dilution, use, disposal and the use of equipment. [The producer shall also provide product information sheets for users.](#)

Assessment and verification: a sample of training material containing step-by-step instructions for proper dilution, use, disposal and the use of equipment and a description of training courses shall be provided to the competent body.

b) [Alternative 2 \(to be discussed during the 1st AHWG meeting\) to withdraw the criterion](#)

No significant changes are proposed for this criterion in the first alternative. The inclusion of a requirement for product information sheets for users is proposed for discussion.

The exclusion of the criterion is proposed as second alternative as it does not bring any additional environmental benefit to the product itself and the training will be considered in other policy tools such as EU Ecolabel for cleaning services or GPP for cleaning services.

Criterion NEW: Sustainable sourcing of palm oil, palm kernel oil and their derivatives

[Ingredients used in the product which are derived from palm oil or palm kernel oil must be sourced from plantations that meet the criteria for sustainable management that have been developed by multi-stakeholder organisations who have a broad based membership including NGOs, industry and government.](#)

Assessment and verification: the applicant shall provide third-party certifications that the palm oil used in the manufacturing of the product originates from sustainable managed plantations. Certifications accepted shall include RSPO (by identified preserved, segregates or mass balance) or any equivalent scheme based on multi-stakeholder sustainable management criteria. For chemical derivatives of palm oil it is acceptable to demonstrate sustainability for these through book and claim systems such as GreenPalm or equivalent.

5.7 Revision of main decision text

5.7.1 Name, definition and scope for EU Ecolabel

Current definition and scope:

The product group 'All-purpose cleaners and sanitary cleaners' shall comprise: all-purpose cleaners, window cleaners, and sanitary cleaners.

- (a) All-purpose cleaners comprising detergent products intended for the routine cleaning of floors, walls, ceilings, windows and other fixed surfaces, and which are either diluted in water prior to use or used without dilution. All-purpose cleaners shall mean products intended for indoor use in buildings which include domestic, commercial and industrial facilities.
- (b) Window cleaners comprising specific cleaners intended for the routine cleaning of windows, and which are used without dilution.
- (c) Sanitary cleaners comprising detergent products intended for the routine removal, including by scouring, of dirt and/or deposits in sanitary facilities, such as laundry rooms, toilets, bathrooms, showers and kitchens. This subgroup thus contains bathroom cleaners and kitchen cleaners.

The product group shall cover products for both private and professional use. The products shall be mixtures of chemical substances and must not contain micro-organisms that have been deliberately added by the manufacturer.

Proposal for new definition and scope

The product group '[Cleaning Products](#)' shall comprise: all-purpose-cleaners, window cleaners and sanitary cleaners.

- a) All-purpose cleaners comprising detergent products intended for routine cleaning of hard surfaces such as walls, floors and other fixed surfaces.
- b) Window cleaners comprising specific detergents intended for the routine cleaning of windows, [glass and other highly polished surfaces](#).
- c) Sanitary cleaners comprising detergents products intended for the routine removal, including by scouring, of dirt and/or deposits in sanitary facilities, such as laundry rooms, toilets, bathrooms, showers and kitchens. This subgroup contains WC cleaners, bathroom cleaners and kitchen cleaners.

The product group shall cover products for both private and professional use, [intended for indoor use and sold either in ready-to-use \(to be used without dilution in water\) or undiluted form](#). Products shall be mixtures of chemical substances and must not contain micro-organisms that have been deliberately added by the manufacturer. [Wipes containing cleaning agents are not eligible for the EU Ecolabel for cleaning products](#).

Rationale and discussion

Regarding the **name** of the EU Ecolabel for "all-purpose cleaners and sanitary cleaners", a revision seems appropriate as:

- the current name of the EU Ecolabel, "*all-purpose cleaners and sanitary cleaners*", does not encompass all the products that are listed in the definition – namely window cleaners,
- colloquially the EU Ecolabel is referred to as "*all-purpose cleaners*" leading to confusion as to whether one is referring to all the product groups covered (all-purpose cleaners, window cleaners, sanitary cleaners) or just the sub-category dedicated to all-purpose cleaners.

Thus, it is recommended that the name of the product group or the name of the sub-group is changed. In the first case, the product group could be called "cleaning products", while in the second the name of those detergents that are intended to be used for cleaning fixed surfaces could be changed to "general purpose cleaners" or "multi-purpose cleaners".

In this revision it is proposed to change the name of the product group. The name "all-purpose cleaners and sanitary cleaners" is proposed to be replaced by "cleaning products". With this

approach, the more general name will cover all products that are included in the EU Ecolabel and will lead to less confusion as to what is referred to when speaking of "all-purpose cleaners". A review of other ecolabelling schemes found that the corresponding product categories are covered by ecolabels containing general terms such as 'cleaning products' (Table 34). A change of name of the EU Ecolabel to "cleaning products" would bring it in line with the Nordic Swan, Environmental Choice and Green Seal Schemes.

Table 34: Product category names used by other ecolabels

Labelling scheme	Product category	Region
Nordic Swan	Cleaning products	Denmark, Finland, Iceland, Norway, Sweden
Environmental Choice NZ	General purpose cleaning products	New Zealand
	Commercial and institutional cleaning products	New Zealand
Green Seal	Cleaning products for household use	USA
	Cleaning products for industrial and institutional use	USA
Good Environmental Choice AU	Cleaning products	Australia
Current EU Ecolabel	All-purpose cleaners and sanitary cleaners	EU

Regarding the **definition** of the products covered the EU Ecolabel, a clarification is proposed for the definition of window cleaners to include the surfaces intended to be cleaned with this product. The proposed definition has been adapted from New Zealand's Good Environmental Choice scheme, which uses the following definition: "*Glass and window cleaner means a product designed to clean glass or other highly polished surfaces, including window, mirrors and metallic surfaces*". This definition is not extended to include screens (television, computer, etc.) as regular window cleaners are not recommended to be used on such surfaces.

It is proposed to expand the **scope** of the EU Ecolabel to include both ready-to-use (RTU) and undiluted products for all product categories. In the current set of criteria, only all-purpose cleaners are explicitly allowed to be either in RTU or undiluted form; window cleaners are limited to RTU products and no specific information is given about sanitary cleaners. The need for this change in scope has been pointed out numerous times during consultation with stakeholders.

Moreover, in the current criteria set only all-purpose cleaners are explicitly limited to indoor use, although the inclusion of the "routine cleaning" clause for window cleaners and sanitary detergents could be understood to implicitly limit them to indoor use. In a bid to clarify the scope, it is proposed that the restriction to indoor use be expanded to all the covered products.

Wipes are not included in the scope of the current EU Ecolabel criteria for all-purpose cleaners and sanitary cleaners but it is proposed to explicitly exclude them in order to avoid confusion. The addition of a list of excluded products was also mentioned by stakeholders who consider that it is not always easy to understand which products fall under the EU Ecolabel and which do not.

Cleaning wipes are available for both professional and consumer markets; they are intended for a range of tasks including kitchen, bathroom and window cleaning. It is proposed to explicitly exclude these products as LCA studies report that it is unclear whether they are comparable with other products in terms of environmental performance. However, it is certain that wipes produce more solid waste than other forms of cleaning products. By explicitly excluding wipes in the EU Ecolabel scope, the criteria are brought in line with other voluntary labelling schemes such as the Nordic Swan.

The current EU Ecolabel text references the frequency of the use of products by specifying that only products intended for routine cleaning/removal of dirt and other deposits can seek an EU Ecolabel. The term "routine" is not defined and it is proposed that the user manual shall include text clarifying that the term should be understood as covering all cleaning besides cleaning that requires more effort due to it being exceptional such as drain unclogging, over cleaning, etc.

Proposal for new definition and scope (option 2)

The product group 'Cleaning Products' shall comprise: all-purpose-cleaners, window cleaners and sanitary cleaners.

- g) All-purpose cleaners comprising [cleaning](#) products intended for routine cleaning of hard surfaces such as walls, floors and other fixed surfaces.
- h) Window cleaners comprising specific [cleaning](#) intended for the routine cleaning of windows, [glass and other highly polished surfaces](#).
- i) Sanitary cleaners comprising [cleaning](#) products intended for the routine removal, including by scouring, of dirt and/or deposits in sanitary facilities, such as laundry rooms, toilets, bathrooms, showers and kitchens. This subgroup contains WC cleaners, bathroom cleaners and kitchen cleaners.

The product group shall cover products for both private and professional use, [intended for indoor use and sold either in ready-to-use \(to be used without dilution in water\) or undiluted form](#). ~~Products shall be mixtures of chemical substances and must not contain micro-organisms that have been deliberately added by the manufacturer.~~ Wipes containing cleaning agents are not eligible for the EU Ecolabel for cleaning products.

A second version of the definition and scope text is proposed above and allows cleaning products that are not mixtures (e.g. vinegar) and products containing micro-organisms to seek an EU Ecolabel.

The definition proposed does not include the word "detergent" to describe the products as the Detergents Regulation defines a "detergent" as "any substance or mixture containing soaps and/or other surfactants intended for washing and cleaning processes. (...) Other products to be considered as detergents are: auxiliary washing mixture (...), laundry fabric-softener (...), cleaning mixture (...), other cleaning and washing mixtures (...)". Moreover, it does not include the requirement for all products to be "mixtures of chemical substances". These changes would allow manufacturers of pure vinegar intended for cleaning to seek this EU Ecolabel if, of course, they comply with all other criteria.

This revision work has not studied in detail the impact that micro-organisms have on the cleaning properties of products and as well as impacts on the environment. This work will be carried out following the 1st AHWG meeting.

Consultation questions

1	Should the product group name be changed from 'all-purpose cleaners and sanitary cleaners' to 'cleaning products'?
2	If not, what is a suitable name for this product group?
3	Should kitchen cleaners be included under sanitary cleaners or all-purpose cleaners?
4	Should undiluted sanitary cleaners and window cleaners be included in this product category?
5	Should the EU Ecolabel be restricted to products intended for indoor use?
6	Should WC cleaners be treated as a separate category and with limits under each relevant criterion?
7	Is an explicit exclusion of wipes necessary?
8	Are there any other products which should be included?
9	Are there any other products which should be explicitly excluded?
10	Should a list of products not covered be included? Or is this more suited to the User Manual?
11	Is an explicit definition for "routine cleaning" necessary?

Consultation questions

12	Should the definition and scope be changed to cover products that are not mixtures of substances?
13	Should micro-organisms be considered for inclusion in the EU Ecolabel? Background information on the subject is sought from stakeholders.

5.7.2 Definitions

Current definition text

For the purpose of this Decision, the following definitions shall apply:

1. 'substance' means a chemical element and its compounds in the natural state or obtained by any production process, including any additive necessary to preserve the stability of the product and any impurity deriving from the process used but excluding any solvent, which may be separated without affecting the stability of the substance or changing its composition;
2. 'product' (or 'mixture') means a mixture or solution of two or more substances, which do not react.

Proposal for definitions text

(1) "ingoin substances and mixtures" means

- biocides, fragrances, colouring agents, and mixtures thereof, regardless of concentration in the final formulation,
- substances and mixtures intentionally added, by-products and impurities from raw materials, the concentration of which equals or exceeds 0,010% by weight of final formulation;

(2) "undiluted product" means a product that is diluted in water prior to use;

(3) "ready-to-use (RTU) product" means a product that should not be diluted in water before use;

(4) "primary packaging" means packaging conceived so as to constitute the smallest sales unit of distribution to the final user or consumer at the point of purchase in direct contact with the content, including label where applicable.

Rationale and discussion

For further information on the update of definitions listed, refer to the Technical Annexe (Section 7.4).

The criteria for the product groups covered by the EU Ecolabel for all-purpose cleaners and sanitary cleaners have separate requirements for undiluted and ready-to-use products and therefore the definitions for these terms are proposed to be explicitly added. The definition for "concentrated products" (see the Technical Annexe (Section 7.4)) is not on the list of proposed additions as traditional and concentrated products do not have different requirements in this EU Ecolabel.

The definition for "substance" is proposed to be replaced with "ingoin substances and mixtures", which also provides information on the measurement thresholds for the different types of substances and mixtures covered. The definition of "product" is proposed to be removed as it overlaps with the definition of "detergent" as found in the Detergents Regulation.

5.8 Technical Report / Criteria Proposals

5.8.1 Assessment and verification requirements and measurement thresholds

Current assessment and verification requirements and measurement thresholds

c) Requirements

The specific assessment and verification requirements are indicated within each criterion

Where the applicant is required to provide declarations, documentation, analysis test reports, or other evidence to show compliance with the criteria, it is understood that these may originate from the applicant and/or his supplier(s) and/or their supplier(s) etc., as appropriate.

Where possible, the testing should be performed by laboratories that meet the general requirements of EN ISO 17025 or equivalent.

Where appropriate, test methods other than those indicated for each criterion may be used if the competent body assessing the application accepts their equivalence.

Appendix I makes reference to the Detergents Ingredients Database (DID) list which contains the most widely used ingredients used in detergent formulations. It shall be used for deriving the data for the calculations of the Critical Dilution Volume (CDV) and for the assessment of the biodegradability of the ingredients. For substances not present on the DID list, guidance is given on how to calculate or extrapolate the relevant data. The latest version of the DID list is available from the EU Ecolabel website or via the websites of the individual competent bodies.

Where appropriate, competent bodies may require supporting documentation and may carry out independent verifications.

d) Measurement thresholds

All substances in the product, including additives (e.g. preservatives or stabilisers) in the ingredients, of which the concentration exceeds 0,010 % by weight of the final formulation shall comply with the EU Ecolabel criteria, except for Criterion 1, where each intentionally added substance should be included, irrespective of its weight. Impurities resulting from the production of the ingredients which are present in concentrations > 0,010 % by weight of the final formulation shall also comply with the criteria.

Proposal for assessment and verification requirements and measurement thresholds

a) Requirements

The specific assessment and verification requirements are indicated for each criterion.

Where the applicant is required to provide declarations, documentation, analyses, test reports, or other evidence to show compliance with the criteria, these may originate from the applicant or his supplier(s) or both.

Where possible, the testing shall be performed by laboratories that meet the general requirements of European Standard EN ISO 17025 or equivalent.

Where appropriate, test methods other than those indicated for each criterion may be used if the competent body assessing the application accepts their equivalence.

Where appropriate, competent bodies may require supporting documentation and may carry out independent verifications.

The Appendix makes reference to the "Detergent Ingredient Database" list (DID list) which contains the most widely used ingredients in detergents and cosmetics formulations. It shall be used for deriving the data for the calculations of the Critical Dilution Volume (CDV) and for the assessment of the biodegradability of the ingoing substances and mixtures. For substances or mixtures not present on the DID list, guidance is given on how to calculate or extrapolate the relevant data. The latest version of the DID list is available from the EU Ecolabel website or via the websites of the individual competent bodies.

The following information shall be provided to the competent body:

(i) The full formulation of the product indicating trade name, chemical name, CAS no. and INCI designations, DID no.2, the ingoing quantity including and excluding water, the function and the form of all ingoing substances and mixtures regardless of concentration;

(ii) safety data sheets for each ingoing substance or mixture in accordance with Regulation (EC) No 1907/2006 of the European Parliament and of the Council.

b) Measurement thresholds

Compliance with the ecological criteria is required for all ingoing substances and mixtures, with the exception of compliance with criterion 3*(b) and 3*(c) for preservatives, colorants and fragrances which is requested when their concentration equals or exceeds 0,010% by weight in the final formulation.

*number of criterion to be changed based on the final structure of the criteria

Rationale and discussion

a) Requirements

The text regarding the assessment and verification requirements is proposed to be aligned with the text from the EU Ecolabel on Rinse-off Cosmetics. One of the most significant changes proposed is the addition of the text that clarifies what is to be provided to the CB – it is not present in the current criteria.

b) Measurement thresholds

The measurement threshold is the concentration of ingredients in the product for which there is a requirement for documentation of compliance with the ecological criteria. It is proposed to harmonise the measurement thresholds for all the EU Ecolabels in the detergents group and the EU Ecolabel for rinse-off cosmetics.

The new text and thresholds are discussed in the Technical Annexe (Section 7.5).

In the specific case of the EU Ecolabel for all-purpose cleaners and sanitary cleaners, the new text partially changes the thresholds for additives (e.g. biocides, fragrances and colouring agents). Namely in the current text, additives were only to be considered if their concentration in the final formulation was equal or above 0,01% except in the criterion on toxicity to aquatic organisms where all additives were to be considered, regardless of concentration. The new text states that additives are only to be considered if their concentration in the final formulation is equal or above 0,01% for criteria 3(b) and 3(c) related to hazardous substances, for all other criteria all additives should be considered, regardless of their concentration. When considering the different criteria in the EU Ecolabel, the only one that is affected by the change is that related to biodegradability.

5.8.2 Reference dosage

Current requirements for reference dosage

For all-purpose cleaners which are diluted in water prior to use, the dosage in grams of the product recommended by the manufacturer for preparing 1 litre of washing water for cleaning of normally soiled surfaces is taken as the reference dosage for the calculations aiming at documenting compliance with the EU Ecolabel criteria and for testing of cleaning ability.

Proposal for reference dosage

The following dosages are taken as the reference dosage for the calculations aiming at documenting compliance with the EU Ecolabel criteria and for testing of cleaning ability:

Ready-to-use (RTU) products	100g
Undiluted products	Dosage in grams recommended by the manufacturer for preparing 1 litre of washing water for cleaning normally soiled surfaces (indicated in g/l washing water or ml/l washing water)

Rationale and discussion

A reference dosage is the quantity of product used when calculating compliance with ecological requirements such as biodegradability and CDV. Further information on functional units and reference dosage in EU Ecolabels related to detergents can be found in the Technical Annexe (Section 7.6).

This section of the current criteria only lists the reference dosage for "undiluted all-purpose cleaners". In order to cover all undiluted products other than all-purpose cleaners that also fall under the EU Ecolabel, the wording is proposed to be changed to "products". Although it is already indicated in the text of the respective criteria, it is also proposed to add the reference dosage for RTU products to this section.

The quantities taken as reference dosages are proposed to be kept the same, while simply expanding the wording to include all the products included in the expanded scope. As all-purpose cleaners and sanitary cleaners cover a wide range of products that have different applications, no common functional unit that should be washed can be stated, thus the generic reference dosage of 100g is applied.

5.8.3 Criterion 1: Toxicity to aquatic organisms

Current criterion 1

For all-purpose cleaners which are diluted in water prior to use, the CDV_{chronic} shall be calculated on the basis of the dosage in grams of the product recommended by the manufacturer for preparing 1 litre of washing water for cleaning of normally soiled surfaces. The CDV_{chronic} of the recommended dose expressed for 1 litre of washing water shall not exceed 18,000 litres.

For all-purpose cleaners which are used without dilution, the CDV_{chronic} for 100 g of the product shall not exceed 52,000 litres.

For window cleaners, the CDV_{chronic} for 100 g of the product shall not exceed 4,800 litres.

For sanitary cleaners, the CDV_{chronic} for 100 g of the product shall not exceed 80,000 litres.

Assessment and verification: the exact formulation of the product shall be provided to the competent body, together with the details of the CDV_{chronic} calculations showing compliance with this Criterion.

Proposal for criterion 1

The critical dilution volume (CDV) of the product must not exceed the following limits for the reference dosage:

Product type	Limit CDV
All-purpose cleaners, RTU	52 000
All-purpose cleaners, undiluted	12 200
Window cleaners, RTU	4 800
Window cleaners, undiluted	1 200
Sanitary cleaners, RTU	72 000
Sanitary cleaners, undiluted	18 000
Toilet (WC) cleaners, RTU	80 000

Assessment and verification: Calculation of the CDV of the product. A spreadsheet for calculation of the CDV value is available on the EU Ecolabel website.

The Critical Dilution Volume (CDV) is calculated for all ingoing substances and mixtures (i) in the product using the following equation:

$$CDV = \sum CDV(i) = 1000 \cdot \sum dosage(i) \cdot \frac{DF(i)}{TF(i)}$$

Where:

$dosage(i)$: weight (g) of the substance or mixture i in the reference dose,

$DF(i)$: degradation factor for the substance or mixture i

$TF(i)$: toxicity factor for the substance or mixture i

The values of $DF(i)$ and $TF(i)$ shall be as given in the DID list Part A (Appendix I). If a substance or mixture is not included in the DID list Part A, the applicant shall estimate the values follow the approach described in the DID list Part B (Appendix I).

Rationale and discussion

Detergents have great potential to cause disturbances in aquatic ecosystems as they cause chemical emissions to water during their entire life cycle. For this reason, EU Ecolabels limit the amount of emissions due to EU Ecolabel products. Critical Dilution Volume (CDV) is used in the current EU Ecolabels related to detergents to assess toxicity to aquatic organisms. It is proposed to keep this assessment method in this revision. *Further description of CDV and discussion of other assessment methods can be found in the Technical Annexe (Section 7.8.1).*

In order to revise the CDV limits for the different products covered by this EU Ecolabel for all-purpose cleaners and sanitary cleaners, stakeholders (including competent bodies) were contacted and asked to provide information on CDV values of products on the market. A total of 240 CDV

values for products in this category have been received, all concerning products that have applied to be awarded the EU Ecolabel for all-purpose cleaners and sanitary cleaners or other similar ecolabels, Table 35 (data presented in Appendix 1 of this document). These have been split into five different groups as they exist in the current EU Ecolabel (marked in black in Table 35). No reliable data on CDV values was found for the two categories proposed to be included in the EU Ecolabel (undiluted window and sanitary cleaners). Toilet cleaners are presented as a separate category to sanitary cleaners, but because many products were labelled simply as 'sanitary cleaners', without further specification, there might still be some products which are toilet cleaners in the sanitary cleaners category. Nevertheless, it can be observed that toilet cleaners have higher CDV values than most sanitary cleaners.

Table 35: CDV ranges identified for different product types (rounded to the closest 100)

	No.	CDV			Current Limit	Proposed Limit
		Min	Max	Average		
All-purpose purpose cleaners (RTU)	4	5 600	50 500	29 200	52 000	52 000
All-purpose cleaners (undiluted)	120	1 300	18 000*	10 100	18 000	12 200
Window cleaners (RTU)	40	1 000	4 800	4 000	4 800	4 800
Window cleaners (undiluted)	n.d.	n.d.	n.d.	n.d.	n.d.	1 200
Sanitary cleaners (RTU)	71	1 000	79 500	53 400	80 000	72 000
Sanitary cleaners (undiluted)	n.d.	n.d.	n.d.	n.d.	n.d.	18 000
Toilet (WC) cleaners	5	45 700	80 000	65 400	80 000**	80 000

N.B. Reliable data for concentrated sanitary cleaners and window cleaners (undiluted) not available

*two values abnormally high values (41 500 and 79 100) have been disregarded in order not to skew results

**limit for sanitary cleaners has been used

As part of the investigation, the current EU Ecolabel CDV values have been compared to those in the current Nordic Swan criteria for cleaning products (Table 36) as well as in the NF Environnement criteria (Table 37). For ready to use products the Nordic Swan the product's CDV using the weight of 1 litre of product as the dosage, but the EU Ecolabel uses 100g of product as the dosage; this makes direct comparison of the limits more difficult, but essentially, the equivalent CDV value for the EU Ecolabel would be a factor of 10 lower (i.e. the ratio 1 kg (assumed 1 litre) to 100 g). For both Nordic Swan and NF Environnement, product categories do not always correspond to those found in the EU Ecolabel, especially in the case of Nordic Swan. The closest EU Ecolabel equivalent product category has been indicated in Table 36 to ease comparisons.

Table 36: CDV limits for the Nordic Swan "cleaning products" categories

Category	CDV _{chronic}	CDV _{chronic} brought to EU Ecolabel reference dosage	Equivalent EU Ecolabel product group	Equivalent EU Ecolabel CDV (current)
Concentrated, consumer	10 500	10 500	All-purpose cleaner (undiluted)	18 000
RTU WC, consumer	600 000	60 000	Toilet (WC) cleaner	80 000
RTU other, consumer	700 000	70 000	All-purpose cleaner (RTU)	52 000
RTU window, consumer and professional	75 000	7 500	Window cleaner (RTU)	4 800
Concentrated, professional	9 500	9 500	All-purpose cleaner (undiluted)	18 000
RTU WC, professional	700 000	70 000	Toilet (WC) cleaner	80 000
RTU, professional	450 000	45 000	All-purpose cleaner (RTU)	52 000

Table 37: CDV limits for NF Environnement "cleaning products" (produits de nettoyage) categories

Category	CDV limit
Undiluted products	20 000
RTU products	100 000
Window cleaners (RTU or 100g of diluted product)	5 000

It can be observed that NF Environnement's CDV limits are much higher than the ones currently found in the EU Ecolabel; in the case of the Nordic Swan, the limits are overall lower.

The revision of CDV limits should take into account the fact the DID list has been updated in 2014. Some values have been updated and might have an influence on the CDV values of existing products, although it is yet unclear if the changes are drastic enough to cause products to lose compliance with the CDV requirement. As exact formulations were not available during this revision, it is not possible to comment on whether the update of the DID list should have an impact on the CDV values in criterion on toxicity to aquatic organisms in the EU Ecolabel for all-purpose cleaners and sanitary cleaners.

Proposal for new limits

As few data were available for **RTU all-purpose cleaners**, the average value of 29 200 litres cannot be taken as representative because of the large disparities between data points. Thus no changes are proposed for this limit.

An analysis of the recorded applications under **undiluted all-purpose cleaners**, shows that currently ecolabelled (EU Ecolabel and other ecolabels) products have CDV values between 1 300 and 18 000 (or just under it) for their respective recommended dosages (see Figure 10). Accordingly, it is proposed to tighten this requirement by 10% and requiring a maximum CDV value of 12 200. With this new value, over 75% of currently ecolabelled products would still meet the requirement. This level is still above the equivalent value for the Nordic Swan cleaners (consumers, concentrated) at 10 500 and (professional, concentrated) at 9 500.

An analysis of the CDV values for **RTU window cleaners** shows that 66% of them lie above 4 000, with a good number close to the current limit of 4 800 (Figure 11). Accordingly it is not proposed to change the limit values without further substantiating evidence.

Stakeholders requested that window cleaners be separated into RTU and undiluted categories (see Section 2.3 of the Preliminary Report). Accordingly, provision for a new category has been made for **undiluted window cleaners**. No data was available for CDV values related to undiluted window cleaners but a value of 1 200 litres is proposed for discussion. This value was reached by analogy between the ratio of CDV values RTU:undiluted for all-purpose cleaners.

In this revision, stricter limits are proposed for **RTU sanitary cleaners**. As indicated above, once (identifiable) WC cleaners are separated from the sanitary cleaners, the average CDV value is distinctly lower than both taken together. From Table 35, it can be seen that the average CDV values are 65 400 and 53 400 for WC and sanitary cleaners, respectively. (The latter may still contain WC cleaners which have not been well described, as indicated by the maximum CDV value still being near the current limit of 80 000.) A general lowering of the limits for the RTU sanitary cleaners category therefore seems rational – a 10% decrease, from 80 000 to 72 000 litres is proposed for discussion. This is a conservative figure, higher than the current equivalent Nordic Swan values of 45 000 and 60 000, and that is less than might be indicated if the pro-rata average values of the two categories were taken ($53\,400 / 65\,400 * 80,000 = 65\,300$) but this reflects the uncertainty in the data received.

Undiluted sanitary cleaners have been added to the product scope following requests from stakeholders. Consequently, new limits are required for the ecological criteria to allow for this addition. Some CDV limits for concentrated sanitary products have been provided, but not enough to set limits for this product type with any degree of confidence. Through discussions with

competent bodies it was found that some concentrated sanitary cleaners had already been awarded the EU Ecolabel. For the purposes of setting a value for discussion and consultation, a level of 18 000 is proposed. This is on the basis of the ratio of concentrated:RTU values for sanitary cleaners being similar to the equivalent ratio for all-purpose cleaners, taken on the same basis.

The examination of the CDV values of EU Ecolabel sanitary cleaners revealed that in general **RTU WC cleaners** have the highest CDV values of all the products that can be discerned in the sanitary cleaners category. Nordic Swan has a separate category for WC cleaners, which only includes products intended for use on toilets and excludes cleaners for other sanitary porcelain and bathroom cleaners. The reason for separating toilet cleaners from other sanitary cleaners is that they contain harsher ingredients such as strong acids which are required for the removal of mineral deposits, normal organic and inorganic soils and so will be expected to push against CVD limits. Because this is a proposal for a dedicated limit for these high impact materials, it is proposed that the existing CDV value of 80 000 for the sanitary cleaners be retained.

N.B. Since CDV is the only major differentiating feature of WC cleaners in this category, it is not proposed to formally split the category (which would require values in every other criterion).

Consultation questions	
1	More information is required from stakeholders in terms of CDV values for all categories and exact formulations.
2	Does the 2014 DID list update cause major changes to CDV values?
3	Are the new proposals for CDV values appropriate?
4	Should RTU Toilet (WC) cleaners be in a separate category?

5.8.4 Criterion 2: Biodegradability of surfactants

Current criterion 2

a) Ready biodegradability (aerobic)

Each surfactant used in the product shall be readily biodegradable.

b) Anaerobic biodegradability

Surfactants that are not biodegradable under anaerobic conditions may be used in the product within specified limitations provided that the surfactants are not classified with H400/R50 (Very toxic to aquatic life) within the limit specified below.

For all-purpose cleaners to be diluted with water prior to use, the total weight of anaerobically non-biodegradable surfactants must not exceed 0.40 g of the recommended dose expressed for 1 litre of washing water.

For all-purpose cleaners to be used without dilution, the total weight of anaerobically non-biodegradable surfactants must not exceed 4.0 g per 100 g product.

For sanitary cleaners, the total weight of anaerobically non-biodegradable surfactants must not exceed 2.0 g per 100 g product.

For window cleaners, the total weight of anaerobically non-biodegradable surfactants must not exceed 2.0 g per 100 g product.

Assessment and verification: the exact formulation of the product as well as a description of the function of each substance shall be provided to the competent body. The DID list-Part A (Appendix I) indicates whether a specific surfactant is anaerobically biodegradable or not (the surfactants with an entry of 'Y' in the column on anaerobic biodegradability are biodegradable under anaerobic conditions). For surfactants which are not included in the DID list-Part A, the relevant information from literature or other sources, or appropriate test results, showing that they are anaerobically biodegradable shall be provided. The reference test for anaerobic degradability shall be OECD 311, ISO 11734, ECETOC No 28 (June 1988) or an equivalent test method, with the requirement of a minimum of 60 % ultimate degradability under anaerobic conditions. Test methods simulating the conditions in a relevant anaerobic environment may also be used to document that 60 % ultimate degradability has been attained under anaerobic conditions.

Proposal for criterion 2 – "Biodegradability"

a) Biodegradability of surfactants

To be discussed at the 1st AHWG meeting.

All surfactants shall be biodegradable under aerobic conditions.

All surfactants shall be biodegradable under anaerobic conditions.

b) Biodegradability of organic substances and mixtures

To be discussed at the 1st AHWG meeting.

The content of organic substances and mixtures in the product that are aerobically non-biodegradable (not readily biodegradable aNBO) or anaerobically non-biodegradable (anNBO) shall not exceed the following limits for the reference dosage:

Product type	aNBO	anNBO
All-purpose cleaners, RTU	x,xx g	x,xx g
All-purpose cleaners, concentrated	x,xx g	x,xx g
Window cleaners, RTU	x,xx g	x,xx g
Window cleaners, concentrated	x,xx g	x,xx g
Sanitary cleaners, RTU	x,xx g	x,xx g
Sanitary cleaners, Concentrated	x,xx g	x,xx g
WC cleaners, RTU	x,xx g	x,xx g

Assessment and verification: The applicant shall provide documentation for the degradability of surfactants, as well as the calculations of aNBO and anNBO for the product. A spreadsheet for use in calculating aNBO and anNBO values is available on the EU Ecolabel website.

For both surfactants and aNBO and anNBO values, reference shall be made to the DID List. For ingredients which are not included in the DID List, the relevant information from literature or other sources, or appropriate test results, showing that they are aerobically and anaerobically biodegradable shall be provided as described in Appendix (to be added).

In the absence of documentation in accordance with the above requirements, an ingoing substances and mixtures other than a surfactant may be exempted from the requirement for anaerobic degradability if one of the following three alternatives is fulfilled:

1. Readily degradable and has low adsorption ($A < 25\%$);
2. Readily degradable and has high desorption ($D > 75\%$);
3. Readily degradable and non-bioaccumulating.

Testing for adsorption/desorption may be conducted in accordance with OECD guidelines 106.

Rationale and discussion

In the current EU Ecolabel criteria for all-purpose cleaners and sanitary cleaners only the biodegradability of surfactants is considered. Nevertheless, cleaning products contain other substances that are not readily biodegradable (aerobically, aNBO), including phosphonates, EDTA, fragrances, polymers, colouring agents and thickening agents. They also contain substances that are not anaerobically degradable (anNBO), including sulphonated anionic surfactants, phosphonates, fragrances and colouring agents.

As explained in the Technical Annexe (Section 7.9), the use of non-biodegradable (aNBO, anNBO) ingredients should be limited as substances which do not degrade rapidly in the environment have the potential to exert toxicity. A limitation (i.e. having maximum concentrations) allows for flexibility with formulations whilst reducing the risk to the environment.

As six EU Ecolabels related to detergents are being revised at the same time and as these products often have similar formulations, it is judicious to consider the harmonisation of their criteria. In the case of biodegradability, the current six EU Ecolabel criteria approach the subject using three different approaches and stakeholder consultation has yielded a multitude opinions. It has thus been decided that background research on the subject (Technical Annexe (Section 7.9)) will be presented during the 1st AHWG meeting and the criterion on biodegradability will be revised following discussions with stakeholders.

Consultation questions

1	Is the proposed approach to biodegradability suitable for APC?
2	What would be the appropriate limits for aNBO and anNBO? Could stakeholders please share with the project team data on the amount of aNBO and anNBO organic substances and mixtures in the product groups covered?

5.8.5 Criterion 3: Excluded or limited substances and mixtures

Current criterion 3a-b

(a) Specified excluded substances

The following ingredients must not be included in the product, either as part of the formulation or as part of any mixture included in the formulation:

- alkylphenol ethoxylates (APEOs) and derivatives thereof
- EDTA (ethylenediaminetetraacetate)
- 5-bromo-5-nitro-1,3-dioxane
- 2-bromo-2-nitropropane-1,3-diol
- diazolinidylurea
- formaldehyde
- sodium hydroxymethylglycinate
- nitro-musks and polycyclic musks, including for example:
 - Musk xylene: 5-tert-butyl-2,4,6-trinitro-m-xylene
 - Musk ambrette: 4-tert-butyl-3-methoxy-2,6-dinitrotoluene
 - Moskene: 1,1,3,3,5-pentamethyl-4,6-dinitroindan
 - Musk tibetine: 1-tert-butyl-3,4,5-trimethyl-2,6-dinitrobenzene
 - Musk ketone: 4'-tert-butyl-2',6'-dimethyl-3',5'-dinitroacetaphenone
 - HHCB (1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethylcyclopenta(g)-2-benzopyran)
 - AHTN (6-acetyl-1,1,2,4,4,7-hexamethyltetralin).

Assessment and verification: the applicant shall provide a declaration supported by declarations from manufacturers of substances, as appropriate, confirming that the listed substances have not been included in the product.

(b) Quaternary ammonium salts

Quaternary ammonium salts that are not readily biodegradable shall not be used, either as part of the formulation or as part of any mixture included in the formulation.

Assessment and verification: the applicant shall provide documentation showing the biodegradability of any quaternary ammonium salt used.

Proposal for criterion 3(a) – "Specified excluded ingoing substances and mixtures"

a) The product shall not be formulated or manufactured using any of the following compounds:

- (i) APEO (alkylphenol ethoxylates) and APD (alkylphenol derivatives)
- (ii) EDTA (ethylenediaminetetraacetate)
- (iii) 5-bromo-5-nitro-1,3-dioxane
- (iv) 2-bromo-2-nitropropane-1,3-diol
- (v) Diazolinidylurea
- (vi) Formaldehyde
- (vii) Sodium hydroxymethylglycinate
- (viii) Nitro-musks and polycyclic musks
- (ix) The following fragrances and ingredients of the fragrance mixtures: Hydroxyisohexyl 3-cyclohexene carboxaldehyde (HICC), Atranol and Chloroatranol;

- (x) Quaternary ammonium salts that are not readily biodegradable
- (xi) Fragrance substances subject to the declaration requirement provided for in Regulation (EC) No 648/2004 of the European Parliament and of the Council on detergents (Annex VII) and which are not already excluded by criterion 2b shall not be present in quantities $\geq 0,010\%$ (≥ 100 ppm) per substance.
- (xii) Phosphates or phosphorus compounds shall not be included in the product, neither as part of the formulation nor as part of any mixture included in the formulation.

Assessment and verification: the applicant shall provide a declaration supported by declarations from manufacturers of substances, as appropriate, confirming that the listed substances have not been included in the product.

The applicant shall provide documentation showing the biodegradability of any quaternary ammonium salt used.

The applicant shall also provide a declaration from the fragrance manufacturer specifying the content of each of the substances in the fragrances which are listed in Annex III of the Regulation (EC) No 1223/2009.

Rationale and discussion

Limiting environmentally harmful substances from products covered by the scope of the EU Ecolabel for all-purpose cleaners and sanitary cleaners is important, as most of the ingredients making up these products end up in the aquatic environment after use, ideally after going through wastewater treatment systems but sometimes also directly after use.

The requirement (a) *Specified excluded ingoing substances and mixtures* lists substances of concern, which have strong negative properties and cause significant impacts and are should not be present in EU Ecolabel products. Among them, they might also be substances that are classified or excluded above the concentration of 0,01% by sub-section (b) *Hazardous substances and mixtures* of this criterion. Nevertheless, due to a lack of harmonised classification and their potential hazard, it seems reasonable to cover the most impacting substances under this section and exclude them completely from the EU Ecolabel products. Overlaps in criteria regarding substances will be tackled in later stages of the EU Ecolabel revision process.

The information and grounds that lead to the exclusion of the following substances and substance groups are summarized in the Technical Annexe (Section 7.10.1).

At present the following substances are proposed to be added to the excluded substances list based on initial feedback and information collected:

- APD (alkylphenol derivatives),
- 3-cyclohexene carboxaldehyde (HICC), Atranol and Chloroatranol,

Additionally, in line with other detergent product criteria revisions, it is proposed to remove the exemplification of musks. A list can be included into use manual, if considered helpful by the CBs and applicants.

Consultation questions

1	Are exclusions of other substances required?
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Current criterion 3c

(c) Hazardous substances and mixtures

According to the Article 6(6) of Regulation (EC) No 66/2010, the product or any part of it shall not contain substances (in any forms, including nanoforms) meeting criteria for classification with the hazard statements or risk phrases specified below in accordance with Regulation (EC) No 1272/2008 of the European Parliament and of the Council (1) or Council Directive 67/548/EEC (2) nor shall it contain substances referred to in Article 57 of Regulation (EC) No 1907/2006 of the European Parliament and of the Council (3). The risk phrases below generally refer to substances. However, for mixtures of enzymes and fragrances, where information on substances cannot be obtained, the classification rules for mixtures shall be applied.

List of hazard statements:

GHS Hazard Statement	EU Risk Phrase
H300 Fatal if swallowed	R28
H301 Toxic if swallowed	R25
H304 May be fatal if swallowed and enters airways	R65
H310 Fatal in contact with skin	R27
H311 Toxic in contact with skin	R24
H330 Fatal if inhaled	R23/26
H331 Toxic if inhaled	R23
H340 May cause genetic defects	R46
H341 Suspected of causing genetic defects	R68
H350 May cause cancer	R45
H350i May cause cancer by inhalation	R49
H351 Suspected of causing cancer	R40
H360F May damage fertility	R60
H360D May damage the unborn child	R61
H360FD May damage fertility. May damage the unborn child	R60-61
H360Fd May damage fertility. Suspected of damaging the unborn child	R60-63
H360Df May damage the unborn child. Suspected of damaging fertility	R61-62
H361f Suspected of damaging fertility	R62
H361d Suspected of damaging the unborn child	R63
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.	R62-63
H362 May cause harm to breast fed children	R64
H370 Causes damage to organs	R39/23; R39/24; R39/25; R39/26; R39/27; R39/28
H371 May cause damage to organs	R68/20; R68/21; R68/22
H372 Causes damage to organs through prolonged or repeated exposure	R48/25; R48/24; R48/23
H373 May cause damage to organs through prolonged or repeated exposure	R48/20; R48/21; R48/22
H400 Very toxic to aquatic life	R50
H410 Very toxic to aquatic life with long-lasting effects	R50-53
H411 Toxic to aquatic life with long-lasting effects	R51-53
H412 Harmful to aquatic life with long-lasting effects	R52-53
H413 May cause long-lasting harmful effects to aquatic life	R53
EUH059 Hazardous to the ozone layer	R59
EUH029 Contact with water liberates toxic gas	R29
EUH031 Contact with acids liberates toxic gas	R31
EUH032 Contact with acids liberates very toxic gas	R32
EUH070 Toxic by eye contact	R39-41
Sensitising substances	
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled	R42
H317: May cause allergic skin reaction	R43

Substances or mixtures which change their properties upon processing (e.g. become no longer bioavailable, undergo chemical modification) so that the identified hazard no longer applies are exempted from the above requirement.

Derogations: the following substances or mixtures are specifically exempted from this requirement:

Surfactants in concentrations <25 % in the product (*)	H400 Very toxic to aquatic life	R50
Surfactants in concentrations <25 % in the product(**)	H412 Harmful to aquatic life with long-lasting effects	R52-53
Fragrances	H412 Harmful to aquatic life with long-lasting effects	R52-53
Enzymes(***)	H317: May cause allergic skin reaction H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled	R43 R42
NTA as an impurity in MGDA and GLDA(****)	H351 suspected of causing cancer	R40

(*) The percentage must be divided by the M-factor established in accordance with the Regulation (EC) No 1272/2008.

(**) This derogation is applicable provided that they are readily degradable and anaerobically degradable.

(***) Including stabilisers and other auxiliary substances in the preparations.

(****) In concentrations lower than 1.0 % in the raw material as long as the total concentration in the final product is lower than 0.10 %.'

Assessment and verification: the applicant shall provide the exact formulation of the product to the competent body. The applicant shall demonstrate compliance with this Criterion for substances in the product on the basis of information consisting as a minimum of that specified in Annex VII to the Regulation (EC) No 1907/2006. Such information shall be specific to the particular form of the substance, including nanoforms, used in the product. For that purpose, the applicant shall provide a declaration of compliance with this Criterion, together with a list of ingredients and related Safety Data Sheets in accordance with Annex II to Regulation (EC) No 1907/2006 for the product as well as for all substances listed in the formulation(s). Concentration limits shall be specified in the Safety Data Sheets in accordance with Article 31 of Regulation (EC) No 1907/2006

Proposal for criterion 3(b) – "Hazardous substances and mixtures"

b) According to Article 6(6) of Regulation (EC) No 66/2010, the EU Ecolabel may not be awarded to any product that contains substances meeting criteria for classification with the hazard statements specified in Table 31 in accordance with Regulation (EC) No 1272/2008 of the European Parliament or substances referred to in Article 57 of Regulation (EC) No 1907/2006. The hazard statements in Table 31 generally refer to substances. However, if information on substances cannot be obtained, the classification rules for mixtures apply.

Substances or mixtures which change their properties through processing and thus become no longer bioavailable, or undergo chemical modification in a way that removes the previously identified hazard are exempted from criterion X(b).

Table 31: Hazard statements

GHS Hazard Statement
H300 Fatal if swallowed
H301 Toxic if swallowed
H304 May be fatal if swallowed and enters airways
H310 Fatal in contact with skin
H311 Toxic in contact with skin
H330 Fatal if inhaled
H331 Toxic if inhaled
H340 May cause genetic defects
H341 Suspected of causing genetic defects
H350 May cause cancer
H350i May cause cancer by inhalation
H351 Suspected of causing cancer
H360F May damage fertility
H360D May damage the unborn child
H360FD May damage fertility. May damage the unborn child
H360Fd May damage fertility. Suspected of damaging the unborn child
H360Df May damage the unborn child. Suspected of damaging fertility
H361f Suspected of damaging fertility
H361d Suspected of damaging the unborn child
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
H362 May cause harm to breast fed children
H370 Causes damage to organs
H371 May cause damage to organs
H372 Causes damage to organs through prolonged or repeated exposure
H373 May cause damage to organs through prolonged or repeated exposure
H400 Very toxic to aquatic life

H410 Very toxic to aquatic life with long-lasting effects
H411 Toxic to aquatic life with long-lasting effects
H412 Harmful to aquatic life with long-lasting effects
H413 May cause long-lasting harmful effects to aquatic life
EUH059 Hazardous to the ozone layer
EUH029 Contact with water liberates toxic gas
EUH031 Contact with acids liberates toxic gas
EUH032 Contact with acids liberates very toxic gas
EUH070 Toxic by eye contact
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
H317: May cause allergic skin reaction

This criterion applies to all ingredients present in concentrations $\geq 0,01$ %, including preservatives, colouring agents and fragrances.

For consumer cleaning products, the substances in Table 32 are exempted from the obligation in Article 6(6) of Regulation (EC) No 66/2010 following application of Article 6(7) of the same Regulation.

Table 32: Derogated substances - To be discussed in the 1st AHWG meeting

Assessment and verification: the applicant shall demonstrate compliance with criterion x (b) for any ingoing substance or mixture present at concentrations greater than 0,010% in the product.

A declaration of compliance shall be provided by the applicant supported, where appropriate, by the declarations from producer(s) of the raw materials that none of these ingoing substances and/or mixtures meet the criteria for classification with one or more of hazard statements listed in Table 31 in the form(s) and physical state(s) they are present in the product.

The following technical information related to the form(s) and physical state(s) of the ingoing substances and/or mixtures as present in the product shall be provided to support the declaration of non-classification:

(i) For substances that have not been registered under Regulation (EC) No 1907/2006 and/or which do not yet have a harmonised CLP classification: Information meeting the requirements listed in Annex VII to that Regulation;

(ii) For substances that have been registered under Regulation (EC) No 1907/2006 and which do not meet the requirements for CLP classification: Information based on the REACH registration dossier confirming the non-classified status of the substance;

(iii) For substances that have a harmonised classification or are self-classified: safety data sheets where available. If these are not available or the substance is self-classified then information shall be provided relevant to the substances hazard classification according to Annex II to Regulation (EC) No 1907/2006;

(iv) In the case of mixtures: safety data sheets where available. If these are not available then calculation of the mixture classification shall be provided according to the rules under Regulation (EC) No 1272/2008 together with information relevant to the mixtures hazard classification according to Annex II to Regulation (EC) No 1907/2006.

For substances listed in Annexes IV and V to Regulation (EC) No 1907/2006, which are exempted from registration obligations under point (a) and (b) of Article 2(7) of that Regulation, a declaration to this effect by the applicant shall suffice to comply with criterion 3(b).

A declaration on the presence of ingoing substances that fulfil the derogation conditions shall be provided by the applicant, supported, where appropriate, by declarations from the producer(s) of the raw materials. Where required for the derogation, the applicant shall confirm the concentrations of these ingoing substances in the final product.

Rationale and discussion

Background information on the criterion for hazardous substance is given in Technical Annex (Section 7.10.2).

Assessment and verification

The assessment and verification has been updated to harmonise with recently voted similar product group (ROC).

Derogation for enzymes with H400

In response to the consultation, stakeholders requested that a derogation should be added for enzymes classified with H400 (very toxic to aquatic life). Stakeholders commented that this derogation is required due to the classification of several proteases. However, stakeholders only gave limited reasoning for the addition of this derogation: *“Some proteases can be classified as H400. A derogation could be considered, similarly to the amendment made to the I&I laundry and dishwashing detergents criteria”*. It should be noted that this derogation is included in the current EU Ecolabel criteria for IILD and IDD.

Proteases (subtilisins) are a common class of enzymes used in detergents and household cleaning products. They are used in household cleaning products to remove proteinaceous stains and deposits, such as mud, dairy products, baby food, blood and eggs. The concentrations of proteases used in cleaning products is very low and ranges from around 0,007 % to 0,1 %. In terms of environmental performance, as enzymes are proteins they are readily and ultimately biodegradable and as a consequence are removed to a very high extent from sewage treatment plants. A HERA report on subtilisins found them to be suitable for use in household products and concluded that they do not represent a safety concern for consumers and their use in detergents does not provide a risk for the environment.⁵⁸

Further information on the use of enzymes in cleaning products can be found in the Technical Annexe (Section 7.10.2.4).

However at this stage it has not been possible to gather enough evidence to support a derogation. In accordance with the EU Ecolabel Regulation (66/2010) derogations are only allowed when it is not technically feasible to substitute the substance or if the use of alternatives leads to a significantly increased environmental impact of the product

Further discussion on this derogation will be conducted at 1st AHWG meeting in Seville.

Assessment and verification

This has been updated to reflect the changes in Regulation (EC) No 1907/2006.

Consultation questions	
1	Is it technically feasible to formulate APC products without enzymes classified H400?
2	Could the % limit for classified surfactants be lower?

⁵⁸ Subtilisins (Protease), Human & Environmental Risk Assessment on ingredients of household cleaning products, Edition 2.0 February 2007. Available from: [http://www.heraproject.com/files/22-F-07_PROTEASE_HERA_Final%20Edition%20\(unsecured%20-%20PDF-1b\).pdf](http://www.heraproject.com/files/22-F-07_PROTEASE_HERA_Final%20Edition%20(unsecured%20-%20PDF-1b).pdf)

Current criterion 3d

(d) Substances listed in accordance with Article 59(1) of Regulation (EC) No 1907/2006

No derogation from the exclusion in Article 6(6) shall be given concerning substances identified as substances of very high concern and included in the list foreseen in Article 59 of Regulation (EC) No 1907/2006 present in mixtures in concentrations higher than 0.010 %.

Assessment and verification: the list of substances identified as substances of very high concern and included in the candidate list in accordance with Article 59 of Regulation (EC) No 1907/2006 can be found here:

http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp

Reference to the list shall be made on the date of application.

Concentration limits shall be specified in the safety data sheets in accordance with Article 31 Regulation (EC) No 1907/2006.

Proposal for criterion 3(c) – "Ingoing substances listed in accordance with Article 59(1) of Regulation (EC) No 1907/2006"

No derogation from the exclusion in Article 6(6) of Regulation (EC) No 66/2010 shall be given concerning ingoing substances identified as substances of very high concern and included in the list provided for in Article 59(1) of Regulation (EC) No 1907/2006⁵⁹, present in the product in concentrations higher than 0.010 % (weight by weight).

Assessment and verification: *reference to the list of substances identified as substances of very high concern shall be made on the date of application. The applicant shall provide the full formulation of the product to the competent body. The applicant shall also provide a declaration of compliance with criterion 3(c), together with related documentation, such as declarations of compliance signed by the material suppliers and copies of relevant safety data sheets for substances or mixtures.*

Rationale and discussion

No content-wise changes are proposed. The text is proposed to be aligned with that of the corresponding criterion in the ROC criteria.

Current criterion 3e

e) Biocides

(i) The product may only include biocides in order to preserve the product, and in the appropriate dosage for this purpose alone. This does not refer to surfactants, which may also have biocidal properties

(ii) It is prohibited to claim or suggest on the packaging or by any other communication that the product has an antimicrobial action

(iii) Biocides, either as part of the formulation or as part of any mixture included in the formulation, that are used to preserve the product and that are classified H410/R50-53 or H411/R51-53 in accordance with Directive 67/548/EEC, Directive 1999/45/EC of the European Parliament and of the Council (1) or Regulation (EC) No 1272/2008, are permitted but only if their bioaccumulation potentials are characterised by $\log K_{ow}$ (\log octanol/water partition coefficient) < 3.0 or an experimentally determined bioconcentration factor (BCF) ≤ 100 .

Assessment and verification: the applicant shall provide copies of the material safety data sheets for all biocides, together with a documentation of the concentrations of the biocides in the final product.

⁵⁹

http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp

Proposal for criterion 3(d) – "Preservatives"

(xiii) The product may contain preservatives provided that they are not bioaccumulating. A preservative is not considered bioaccumulating if $BCF < 100$ or $\log P_{ow} < 3,0$. If both BCF and $\log K_{ow}$ values are available, the highest measured BCF value shall be used.

(xiv) Preservatives in the product shall not release or degrade to substances that are classified in accordance with the requirements of Criterion x(b) on hazardous substances and mixtures.

(xv) It is prohibited to claim or suggest on the packaging or by any other communication that the product has an antimicrobial action.

Assessment and verification: the applicant shall provide a signed declaration of compliance, together with copies of the safety data sheets of any preservative added, and information on its BCF and/or $\log K_{ow}$ values. The applicant shall provide also artwork of the packaging.

Rationale and discussion

Biocides are used in detergent products for preservation purposes. They prevent the product from spoiling during storage by preventing the growth of microorganisms. However, their use is also a cause for concern as they are highly toxic to aquatic organisms and can also produce hypersensitivity and allergies (for more information see Technical Annexe (Section 7.10.2.2)).

In the current criteria the following changes are proposed:

- The name of sub-criterion is proposed to be changed to 'Preservatives'.
- The statement "Product may only include biocides in order to preserve the product, and in the appropriate dosage for this purpose alone. This does not refer to surfactants, which may also have biocidal properties" is proposed to be removed as competent bodies have mentioned during the revision of the EU Ecolabel for Rinse-Off Cosmetics that they cannot verify the compliance with this requirement.
- Finally, in the recent criteria developments it was pointed out that sometimes preservatives may release or degrade to substances that are even more hazardous than the preservatives used. Therefore an additional requirement is proposed for consideration: *Preservatives in the product shall not release or degrade to substances that classified in accordance with the requirements of criterion x(b) Hazardous substances and mixtures.*

Consultation questions

1	Do you agree with the changes proposed to requirement on preservatives?
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Proposal for criterion X(f) – Colorants **NEW REQUIREMENT**

Colorants in the product must not be bioaccumulating. A colorant is considered not bioaccumulating if $BCF < 100$ or $\log P_{ow} < 3,0$. If both BCF and $\log K_{ow}$ values are available, the highest measured BCF value shall be used. In the case of colouring agents approved for use in food, it is not necessary to submit documentation of bioaccumulation potential.

Assessment and verification: the applicant shall provide copies of the safety data sheets of any colorant added together with information on its BCF and/or $\log K_{ow}$ value, or documentation to ensure that the colouring agent is approved for use in food.

Rationale and discussion

The inclusion of this criterion is proposed in order to harmonise the different criteria sets.

For more information on colorants see the Technical Annexe (Section 7.10.6).

Proposal for criterion X(g) – Enzymes NEW REQUIREMENT

Enzymes must be in liquid form or dust-free granulate. Enzymes must be free from micro-organism remnants from manufacture.

Assessment and verification: the applicant shall provide copies of the material safety data sheets of any enzyme added, together with documentation to ensure that the enzyme is free from micro-organism remnants.

Rationale and discussion

The inclusion of this criterion is proposed in order to harmonise the different criteria sets.

For more information on colorants see the Technical Annexe (Section 7.10.2.4).

Consultation questions

1	Do you agree with the proposed requirements on colorants and enzymes?
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5.8.6 Criterion 4: Fragrances

Current criterion 4

- a) The product shall not contain perfumes containing nitro-musks or polycyclic musks (as specified in Criterion 3 (a)).
- b) Any substance added to the product as a fragrance must have been manufactured and/or handled in accordance with the code of practice of the International Fragrance Association. The code can be found on IFRA website: <http://www.ifraorg.org>
- c) Fragrance substances subject to the declaration requirement provided for in Regulation (EC) No 648/2004 (Annex VII) and which are not already excluded by Criterion 3(c) and (other) fragrance substances classified H317/R43 (May cause allergic skin reaction) and/or H334/R42 (May cause allergy or asthma symptoms or breathing difficulties if inhaled) shall not be present in quantities $\geq 0.010\%$ (≥ 100 ppm) per substance.

Assessment and verification: the applicant shall provide a declaration of compliance with each part of Criteria (a) and (b). For Criterion (c), the applicant shall provide a signed declaration of compliance indicating the amount of fragrances in the product. The applicant shall also provide a declaration from the fragrance manufacturer specifying the content of each of the substances in the fragrances which are listed in Annex III, Part I to Council Directive 76/768/EEC (12) as well as the content of (other) substances which have been assigned the risk phrases R43/H317 and/or R42/H334.

Proposal for criterion 3(e) – "Fragrances"

Any ingoing substance or mixture added to the product as a fragrance shall be manufactured and handled following the code of practice of the International Fragrance Association (IFRA). The code can be found on the IFRA website: <http://www.ifraorg.org>. The recommendations of the IFRA Standards concerning prohibition, restricted use and specified purity criteria for materials shall be followed by the manufacturer.

Assessment and verification: the applicant shall provide a signed declaration of compliance, supported by a declaration of the fragrance manufacturer, as appropriate.

Rationale and discussion

No content-wise change is proposed for this criterion. Three new exclusions of specific fragrances (HICC, atranol and chloroatranol) are proposed to be added and included in the sub-criterion (a) on specified excluded ingoing substances and mixtures, together with the exclusion on nitro-musks and polycyclic musks and fragrance substances subject to the declaration requirement provided for in Regulation (EC) No 648/2004 (Annex VII) and which are not already excluded by Criterion 3(c) and (other) fragrance substances classified H317/R43 (May cause allergic skin reaction) and/or H334/R42 (May cause allergy or asthma symptoms or breathing difficulties if inhaled) in quantities $\geq 0.010\%$ (≥ 100 ppm) per substance.

Background information on the criterion for fragrances is provided in Technical Annexe (Section 7.10.4).

- Update of the Directive 76/768/EEC (Cosmetics Directive) to Regulation (EC) No 1223/2009 (Cosmetic Regulation).

5.8.7 Criterion 5: Volatile organic compounds

Current criterion 5

The final products of all-purpose cleaners and sanitary cleaners (as sold) shall not contain more than 6 % (by weight) of volatile organic compounds with a boiling point lower than 150 °C. Alternatively, for concentrated products to be diluted in water, the total concentration of volatile organic compounds with a boiling point lower than 150 °C shall not exceed 0.2 % (by weight) in the washing water.

The final products of window cleaners (as sold) shall not contain more than 10 % (by weight) of volatile organic compounds with a boiling point lower than 150 °C.

Assessment and verification: the applicant shall provide copies of the material safety data sheets of each organic solvent together with details of the calculations of the total concentration of volatile organic compounds with a boiling point lower than 150 °C.

Proposed criterion 5

Volatile organic compounds (VOC) are defined any organic compound (compound which contains carbon) with a vapour pressure greater than 0,01 kPa at 1 atm and 20°C. The products shall not exceed the following limits of VOC:

Product type	VOC limit (% weight)
All-purpose cleaners, RTU	6 % of product as sold
All-purpose cleaners, undiluted	0,2 % of product as diluted in washing water
Window cleaners, RTU	10 % of product as sold
Window cleaners, undiluted	0,3 % of product as diluted in washing water
Sanitary cleaners, RTU	6 % of product as sold
Sanitary cleaners, undiluted	0,2 % of product as diluted in washing water
Toilet (WC) Cleaners, RTU	6 % of product as sold

Assessment and verification: the applicant shall provide copies of the material safety data sheets of each organic solvent together with details of the calculations of the total concentration of volatile organic compounds.

Rationale and discussion

Volatile organic compounds are released into the air from ingredients used in cleaning products, most commonly from solvents such as formaldehyde, limonene, acetone, ethanol and isopropyl alcohol. VOCs are of concern as indoor air pollutants and have the potential to impact the health of people that are exposed to them, for example when using a cleaning product. The health effects vary greatly from headaches and dizziness, to respiratory tract irritations and memory impairment. As a consequence, it is important to limit the use of these substances in cleaning products.

Clarification on the definition of volatile organic compound

It is not clear from previous revisions of this criterion how VOCs have been defined and characterised.

Directive 2001/81/EC of the European Parliament and of the Council of 23 October 2001 on national emission ceilings for certain atmospheric pollutants established that VOCs (volatile organic compounds) mean:

“...all organic compounds arising from human activities, other than methane, which are capable of producing photochemical oxidants by reactions with nitrogen oxides in the presence of sunlight.”

However, this document does not identify how they might also be characterised in terms of basic physical properties.

Other Directives and EU Ecolabel criteria have taken an approach which attempts to set limits on components by virtue of their vapour pressure at e.g. 25 °C, or a proxy for it such as a maximum boiling point, but without explicit consideration of the photochemical behaviour. For example, the EU Ecolabel Criteria Document for indoor and outdoor paints defines VOCs as: ‘any organic

compounds having an initial boiling point less than or equal to 250 °C measured at a standard pressure of 101,3 kPa as defined in Directive 2004/42/EC [the 'Paints Directive']⁶⁰...', and referencing additional analytical tests. The current criterion takes a significantly lower boiling point of 150 °C, which will substantially restrict the scope of compounds embraced by such a volatility test.

According to ISO16000-6, VOCs are defined as any organic compound whose boiling point is in the range from (50 °C to 100 °C) to (240 °C to 260 °C), corresponding to having saturation vapour pressures at 25 °C greater than 100 kPa. In the context of simplifying the criteria for applicants this appears ambiguous and self-contradictory, although the upper temperature limit is ostensibly the same as that of the Paints Directive. It should be noted that the ISO does define another range, VVOC (very VOC), of even more volatile compounds, essentially continuing the temperature range of interest to below 0 °C. A complete consideration of VOCs should therefore consider the VOC+VVOC content i.e. everything boiling below ca. 250 °C. A note to the definition in the ISO standard does admit that a vapour-pressure based definition is a practical and acceptable alternative.

On this basis, a simpler and more directly relevant definition (coupled with straightforward verification) is that provided by Good Environmental Choice Australia Ltd (2013⁶¹) as:

"...any organic compound (compound which contains carbon) with a vapour pressure greater than 0.01 kPa at 1 atm and 20°C..."

The vapour pressures under these conditions (essentially room temperature and pressure, the likely conditions of use) are routinely published on materials datasheets and so can be easily offered as evidence.

Stakeholders recommended that the definition outlined in ISO16000-6 and cited by the World Health Organisation (WHO) should be adopted for the EU Ecolabel. As noted above, this definition presents a number of complications as presented, including the analytical supporting evidence required for VVOC evaluation.

The definition of volatile organic compounds in ISO16000-6 intended for use indoors is different and this definition should be used in APC product category as these products are intended for indoor use only.

On the basis of simplicity and consistency, it is recommended that VOCs be taken to mean any organic compound and the Good Environmental Choice Australia Ltd criterion be adopted.

No changes to limits for existing products

There was no call from stakeholders to changes the VOC limits for the existing products (all-purpose cleaners, RTU and undiluted; sanitary cleaners, RTU; window cleaners, RTU). There are no other indications of regulation changes that might affect this criterion.

Limits for new product categories

As noted previously, in response to stakeholder comments, it is proposed to subcategorise to identify and assess:

- *Sanitary cleaners, undiluted.*
- *Window cleaners, undiluted.*
- *Toilet (WC) cleaners, RTU.*

Of these, a limit for undiluted sanitary cleaners can be set by reference to the existing terms of the criterion. Here, all-purpose and sanitary cleaners are handled identically, so undiluted sanitary cleaners would adopt a 0,2% VOC content as diluted in wash water. This is suggested within the criterion revision above.

The limit for undiluted window cleaners cannot be set with confidence although, by pro-rating to all-purpose cleaners, a level of 0,3% is suggested.

Similarly, the limit for WC cleaners cannot be set with confidence although, since they are currently classified as sanitary cleaners, a level of 6% could set provisionally.

⁶⁰ Directive 2004/42/CE of the European Parliament and of the Council of 21 April 2004 on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain paints and varnishes and vehicle refinishing products and amending Directive 1999/13/EC

⁶¹ Standard No: CPv2.2-2012 Environmental Performance Standard - Cleaning Products, issued 26 November 2013

Consultation questions

- | | |
|---|--|
| 1 | Is this definition of VOCs appropriate for the product category? |
| 2 | Are the proposed limits appropriate? |

5.8.8 Criterion 6: Phosphorus

Current criterion 6

The total quantity of elemental phosphorous in the product shall be calculated on the basis of the dosage of the product recommended by the manufacturer for preparing 1 litre of washing water for cleaning of normally soiled surfaces (for products diluted in water prior to use) or per 100 g of product (for products used without dilution) taking into account all substances containing phosphorus (e.g. phosphates and phosphonates).

For all-purpose cleaners, which are diluted in water prior to use, the total phosphorus content (P) shall not exceed 0.02 g of the dosage of the product recommended by the manufacturer for 1 litre of washing water.

For all-purpose cleaners, which are used without dilution, the total phosphorus content (P) shall not exceed 0.2 g per 100 g of product.

For sanitary cleaners, the total phosphorus content (P) shall not exceed 1.0 g per 100 g of product.

Substances used in window cleaners must not contain phosphorus.

Assessment and verification: the applicant shall provide the exact formulation of the product to the competent body, together with the details of the calculations showing compliance with this Criterion.

Proposed criterion X(x) – "Phosphorus"

Phosphonates may be included in products intended for professional use but not exceeding concentrations on 0,5% by weight.

Assessment and verification: the applicant shall provide the exact formulation of the product to the competent body, together with the details of the calculations showing compliance with this Criterion.

Rationale and discussion

Phosphorus compounds, such as phosphates and phosphonates, are commonly used as builders in detergent-based products. Builders are chemical compounds that soften water and improve wash performance. However, phosphorus is a major contributor to eutrophication in water systems and therefore the use of phosphorus compounds in detergent products is being phased out in favour of lower impact alternatives. *Further information can be found in Technical Annexe (Section 7.10.1.1).*

Phosphorus compounds, commonly used in detergent products such as dishwasher detergents and laundry detergents are not particularly common in all-purpose cleaning products. Phosphorus compounds can be found in solid soap products, but in very small quantities and they are typically used in installations or buildings that are connected to municipal waste water systems.

The Detergents Regulation (648/2004/EC) has recently been revised and addresses the use of phosphates, limiting the use of phosphates and other phosphorous compounds in household detergents and setting an upper limit on phosphorous content of 0,5 g per dose for the main cycle of the wash process (laundry).

Comparing the restrictions of other ecolabelling schemes, it can be noted that most of them prohibit the use of phosphorus compounds in this product type. This is the case for the Nordic Swan, Good Environmental Choice and the Australian scheme. They set low limits for the content of phosphorus compounds allowed in the product, varying from 0,05 to 0,5% by weight. The New Zealand Environmental Choice scheme takes a slightly different approach, by allowing phosphates and phosphonates as long as they are aerobically biodegradable. These restrictions show that there are products on the market that are phosphorus free and provide a good cleaning performance, and therefore a stricter restriction is proposed for this criterion. The revised approach entails a ban for phosphates in all products covered by the EU Ecolabel for all-purpose cleaners and sanitary cleaners and a limit of 0,5% for phosphonates in professional products. This proposal is underpinned by the stakeholder consultation. The majority of the stakeholders thought that the current limits set for phosphorus compounds are not strict enough.

Consultation questions	
1	Should phosphates be banned from this product category?
2	Are phosphorus compounds used in this product group?
3	Do you agree with the proposal to allow phosphonates in professional products?
4	Should these requirements be merged with criterion 3(a) as in other detergent EU Ecolabel products?

5.8.9 Criterion 7: Packaging requirements

Current criterion 7

a) Sprays containing propellants must not be used.

Plastic materials that are used for the main container shall be marked in accordance with the European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging waste (1), or DIN 6120 Parts 1 and 2 in connection with DIN 7728 Part 1.

If the primary packaging is made of recycled material, any indication of this on the packaging shall be in conformity with the ISO 14021 standard 'Environmental labels and declarations – Self declared claims (type II environmental Labelling).

b) Products packaged in trigger sprays must be sold as a part of a refillable system.

c) Only phthalates that at the time of applications have been risk assessed and have not been classified according to criterion 3(c) may be used in the plastic packaging.

d) The weight utility ratio (WUR) of the primary packaging must not exceed the following values:

Product type	WUR
Concentrated products, including liquid concentrates and solids, that are diluted in water prior to use	1.20 gram packaging per litre use solution (washing water)
Ready-to-use products, i.e. products used without further dilution	150 gram packaging per litre use solution (washing water)

WUR is calculated only for the primary packaging (including caps, stoppers and hand pumps/spraying devices) by using the formula below:

$$WUR = \sum ((W_i + U_i) / (D_i * r_i))$$

Where

W_i = The weight (g) of the primary packaging (i) including label if applicable.

U_i = The weight (g) of non-recycled (virgin) material in the primary packaging (i). If the proportion of recycled material in the primary packaging is 0 %, then $U_i = W_i$.

D_i = The number of functional doses (= number of the dosage volume which is recommended by the manufacturer for 1 litre of washing water) contained in the primary packaging (i). In the case of ready-to-use products that are sold pre-diluted, D_i = product volume (in litres).

r_i = Recycling figure, i.e. the number of times the primary packaging (i) is used for the same purpose through a return or refill system ($r_i = 1$, if the packaging is not reused for the same purpose. If the packaging is reused, r_i is set to 1 unless the applicant can document a higher number.

Assessment and verification: the applicant shall provide a calculation of the WUR of the product to the competent body, together with a declaration of compliance with each part of this Criterion. For Criterion (e) the applicant shall provide completed and signed declaration of compliance.

Proposed criterion 7

h) Products sold in spray bottles

Sprays containing propellants must not be used. Products packaged in trigger sprays must be sold as a part of a refillable system.

Assessment and verification: the applicant or retailer shall document that refills shall be available for purchase on the market.

i) Weight/utility ratio (WUR)

The weight/utility ratio (WUR) of the product shall be calculated for the primary packaging only and shall not exceed the following values for the reference dosage:

Product type	WUR
Undiluted products	1,2 g
RTU products	15,0 g
RTU products sold in bottles with trigger sprays	20,0 g

Are exempted from this requirement:

- Plastic/paper/cardboard packaging containing more than 80 % recycled materials,
- Paper/cardboard packaging that comes 80% from certified sustainable sources,
- Plastic packaging containing more than 80 % plastic from sustainable sources.

Assessment and verification: the applicant shall provide the calculation of the WUR of the product. A spreadsheet for this calculation is available on the EU Ecolabel website. If the product is sold in different packaging (i.e. with different volumes), the calculation shall be submitted for each packaging size for which the EU Ecolabel shall be awarded.

The applicant shall provide a completed and signed declaration for the content of recycled material in the packaging.

- For paper and cardboard, packaging is regarded as recycled if the raw material used to make the packaging has been collected from packaging manufacturers at the distribution stage or at the consumer stage. Where the raw material is industrial waste from the material manufacturer's own production process, then the material will not be regarded as recycled.

- For plastic, packaging is regarded as recycled if the raw material used to make the packaging comes from industrial waste or has been collected from packaging manufacturer at the distribution or at the consumer stage.

The applicant shall provide a completed and signed declaration for the content of sustainably sourced material in the packaging. For paper and cardboard, the applicant shall provide TBD. For plastic, the applicant shall provide TBD.

The WUR is calculated as follows:

$$WUR = \sum ((W_i + U_i) / (D_i * R_i))$$

Where:

W_i : weight (g) of the primary packaging (i),

U_i : weight (g) of non-recycled and non-sustainably sourced packaging in the primary packaging (i). $U_i = W_i$ unless the applicant can document otherwise,

D_i : number of reference doses contained in the primary packaging (i),

R_i : number of times that the primary packaging (i) can be refilled and used for the same purpose. $R_i = 1$ (packaging is not reused for the same purpose) unless the applicant can document a higher number.

j) Design for recycling

Plastic packaging shall be designed to facilitate effective recycling by avoiding potential contaminants and incompatible materials that are known to impede separation or reprocessing or to reduce the quality of recycle. The label or sleeve, closure and, where applicable, barrier coatings shall not comprise, either singularly or in combination the materials and components listed in Table 33. Pumps and spray triggers are exempted from this requirement.

Table 33: Materials and components excluded from packaging elements

Packaging element	Excluded materials and components ⁶²
Label or sleeve	<ul style="list-style-type: none"> - PS label or sleeve in combination material used with a PET, PP or HDPE bottle - PVC label or sleeve in combination with a PET, PP or HDPE bottle - PETG label or sleeve in combination with a PET bottle - Sleeves made of different polymer than the bottle - Labels or sleeves that are metallised or are welded to a packaging body (in mould labelling)

⁶² EVA – Ethylene Vinyl Acetate, EVOH – Ethylene vinyl alcohol, HDPE – High-density polyethylene, PET – Polyethylene terephthalate, PETG – Polyethylene terephthalate glycol-modified, PP – Polypropylene, PS – Polystyrene, PVC – Polyvinylchloride

Closure	<ul style="list-style-type: none"> - PS closure in combination with a PET, HDPE or PP bottle - PVC closure in combination with a PET, PP or HDPE bottle - PETG closures and/or closure material with density of above 1 g/cm³ in combination with a PET bottle - Closures made of metal, glass, EVA - Closures made of silicone. Exempted are silicone closures with a density < 1 g/cm³ in combination with a PET bottle and silicone closures with a density > 1g/cm³ in combination with PEHD or PP bottle - Metallic foils or seals which remain fixed to the bottle or its closure after the product has been opened
Barrier coatings	Polyamide, EVOH, functional polyolefins, metallised and light blocking barriers

Assessment and verification: The applicant shall submit a signed declaration of compliance specifying the material composition of the packaging including the container, label or sleeve, adhesives, closure and barrier coating, and a sample of primary packaging.

Rationale and discussion

From a life cycle perspective, packaging is not the most important environmental impact for all-purpose cleaners but can represent up to 36% of impact contribution for fossil depletion when plastic packaging is used⁶³, for example. In the case of window cleaners, packaging has the largest environmental impact contribution overall⁶⁴. It is therefore proposed that a criterion on packaging is kept present in the EU Ecolabel for all-purpose cleaners and sanitary cleaners.

Further information on the wording of the proposed criterion and background information on packaging can be found in the Technical Annex (Section 7.11).

a) Products sold in spray bottles

As spray nozzles are easily recyclable and require extra materials to manufacture, it is proposed to keep the requirement that products sold in spray bottles are sold part of a refillable system. To prove compliance with this requirement, the applicant should demonstrate that refills are available on the market for the product sold in the spray bottle.

b) Weight/Utility Ratio (WUR)

The way that WUR results are expressed has been changed as previously it did not use the reference dosage for RTU products, unlike the other criteria in this criteria set. Previously WUR for RTU products was calculated for a litre of solution which might have led to confusion; it is now expressed for the reference dosage of 100g of product.

During stakeholder consultation it was also pointed out that the current WUR requirements highly limit the ability of products sold in bottles with trigger sprays to be awarded with an EU Ecolabel, especially if they are sold in bottle sizes under 750ml, which is the case for many RTU products. Investigation of the issue showed that an average 750ml bottle weighs just under 39g and a 500ml bottle just under 34g. A trigger spray weighs around 24g (20g for one of the lightest on the market). If it is considered that the applicant cannot prove that the bottle equipped with a trigger spray will be reused, the WUR are as follows:

Bottle size	Weight	Trigger spray weight	WUR
500ml	34g	24g	23,2g
750ml	39g	24g	16,8g
1000ml	40g	24g	12,8g

Thus, with the current criteria limits, only the 1000ml bottle would pass the requirement with a documented use of 1. As it is difficult to prove that a bottle will be reused (even if refills are available on the market) for domestic products, it is proposed to increase the WUR requirement for RTU products sold in bottles with trigger sprays from 15,0g to 20,0g. This threshold is aligned with the overall threshold required by Nordic Swan, but much higher than the threshold required by AISE's Charter for Sustainable Cleaning for trigger sprays (Table 38).

⁶³ Preliminary report for APCs <http://susproc.jrc.ec.europa.eu/detergents/stakeholders.html>

⁶⁴ AISE. 2013. Charter update 2010. Final version 1 October 2013. ASP substantiation dossier: Household trigger spray cleaners (glass/ window, bathroom, kitchen and all-purpose for hard surfaces)

Table 38: Comparison of the proposed EU Ecolabel thresholds and those required by other ecolabels and other voluntary environmental schemes

Scheme	Proposed EU Ecolabel	Current EU Ecolabel	Nordic Swan	AISE Charter for Sustainable Cleaning	Env. Choice NZ
RTU*	15,0g (non-trigger sprays) 20,0g (trigger sprays)	15,0g	20,0g	14,0g (trigger sprays) 10,2g (toilet cleaners)	15,0g
Undiluted	1,2g	1,2g	1,2g	1,3g	N/A

* all thresholds have been brought to correspond to the reference dosages included in the proposed EU Ecolabel: 100g for RTU products and quantity recommended by the manufacturer for 1l of washing water for undiluted products

As part of the WUR calculations, the percentage of recycled and sustainably sourced packaging in the primary packaging is proposed to be taken into account by lowering the WUR. When this percentage is over 80%, it is proposed that the applicant shall be exempted from compliance with the WUR requirement.

Further information on this aspect can be found in the Technical Annexe (Section 7.11.3.1).

c) Design for recycling

In line with the EU Ecolabel on Rinse-off cosmetics, it is proposed to remove the requirement on the labelling of plastics parts but instead to promote the recyclability of packaging by avoiding combinations of incompatible materials and potential contaminants.

Further information on this aspect can be found in the Technical Annexe (Section 7.11.3.4).

Consultation questions	
1	Packaging is not one of the top 4 KPIs for the product groups concerned, should a criterion related to it be kept?
2	Are the WUR limits appropriate? Especially for trigger sprays.
3	Is the design for recycling requirement suitable for this product group?

5.8.10 Criterion 8: Fitness for use

Current criterion 8

The product shall be fit for use, meeting the needs of the consumers.

a) All-purpose cleaners and window cleaners

For all-purpose cleaners, only fat-removing effects must be documented. For window cleaners, stripe-less drying must be documented

The cleaning ability must be equivalent to or better than that of a market-leading or generic reference product, approved by a competent body.

Assessment and verification: the performance of the product must either be tested by:

- an adequate and justifiable laboratory test, or
- an adequate and justifiable consumer test.

Both tests must be carried out and reported within specified parameters as stated in the framework described in 'Framework for testing the performance of all-purpose cleaners, window cleaners and sanitary cleaners' that can be found here: http://ec.europa.eu/environment/ecolabel/ecolabelled_products/categories/purpose_cleaners_en.htm

b) Sanitary cleaners

Sanitary cleaners include bathroom cleaners, toilet cleaners and kitchen cleaners. For bathroom cleaners, both limesoap and limescale removal shall be documented. For acidic toilet cleaners, only limescale removal shall be documented. For kitchen cleaners fat removing effects shall be documented.

The cleaning ability must be equivalent to or better than that of generic reference detergent specified below.

Assessment and verification: the performance of the product must either be tested by:

- an adequate and justifiable laboratory test, or
- an adequate and justifiable consumer test.

Both tests must be carried out and reported within specified parameters as stated in the framework described in 'Framework for testing the performance of all-purpose cleaners, window cleaners and sanitary cleaners'. The generic reference detergent shall be the one prescribed in IKW performance test 'Recommendation for the quality assessment of acidic toilet cleaners' (SÖFW-Journal, 126, 11, pp. 50-56, 2000). The reference detergent is applicable for toilet cleaners and bathroom cleaners; however the pH must be reduced to 3.5 for the testing of bathroom cleaners.

The IKW performance test 'Recommendation for the quality assessment of acidic toilet cleaners' (SÖFW-Journal, 126, 11, pp. 50-56, 2000) can be downloaded from http://www.ikw.org/pdf/broschueren/EQ_WC_Reiniger_Englisch.pdf

Proposed criterion 8

The product shall be fit for use, meeting the needs of the consumers.

a) All-purpose cleaners and window cleaners

For all-purpose cleaners, only fat-removing effects must be documented. For window cleaners, stripe-less drying must be documented.

The cleaning ability must be equivalent to or better than that of a market-leading or generic reference product, approved by a competent body.

Assessment and verification: the performance of the product must either be tested by:

- an adequate and justifiable laboratory test, or
- an adequate and justifiable user test.

Both tests must be carried out and reported within specified parameters as stated in the framework described in 'Framework for testing the performance of all-purpose cleaners, window cleaners and sanitary cleaners' that can be found here: http://ec.europa.eu/environment/ecolabel/documents/performance_test_cleaners.pdf

b) Sanitary cleaners

Sanitary cleaners include bathroom cleaners, toilet cleaners and kitchen cleaners. For bathroom cleaners, both limesoap and limescale removal shall be documented. For acidic toilet cleaners, only limescale removal shall be documented. For kitchen cleaners fat removing effects and evaluation of burnt-on soil removal shall be documented.

The cleaning ability must be equivalent to or better than that of generic reference detergent specified below.

Assessment and verification: the performance of the product must either be tested by:

- an adequate and justifiable laboratory test, or
- an adequate and justifiable user test.

Both tests must be carried out and reported within specified parameters as stated in the framework described in 'Framework for testing the performance of all-purpose cleaners, window cleaners and sanitary cleaners'. The generic reference detergent shall be the one prescribed in IKW performance test 'Recommendation for the quality assessment of acidic toilet cleaners' (SÖFW-Journal, 126, 11, pp. 50-56, 2000). The reference detergent is applicable for toilet cleaners and bathroom cleaners; however the pH must be reduced to 3.5 for the testing of bathroom cleaners.

The IKW performance test 'Recommendation for the quality assessment of acidic toilet cleaners' (SÖFW-Journal, 126, 11, pp. 50-56, 2000) can be downloaded from http://www.ikw.org/fileadmin/content/downloads/Haushaltspflege/HP_EQ-Allzweck-englisch.pdf

Rationale and discussion

No major changes are proposed for this criterion in this revision. During stakeholder consultation it has been suggested that kitchen cleaners can also be tested on their ability to remove burnt-on soil, this has been added as a proposal in the text. Another suggestion to update the testing protocols by increasing the number of repetitions to 20 in order to have a better view of the performance of the product. This suggestion has not been implemented in this revision and is proposed for discussion during the 1st AHWG meeting.

Updating to the links and methods has been introduced in the revision of the criterion. :

Consultation questions

1	Should evaluation of burnt on soil removal be added as an additional requirement of the testing procedure for kitchen cleaners?
2	Should the number of repetitions required by the testing procedures be increased to 20, in line with HDDs?

5.8.11 Criterion 9: User instructions

Current criterion 9

a) Dosage instructions

Information on the recommended dosage of all-purpose cleaners and sanitary cleaners shall appear on the packaging in a reasonably sufficient size and against a visible background. In the case of a concentrated product, it shall be clearly indicated on the packaging that only a small quantity of the product is needed compared to normal (i.e. diluted) products.

The following text (or equivalent text) shall appear on the packaging: *'Proper dosage saves costs and minimises environmental impacts'*.

The following text (or equivalent text) shall appear on the packaging of ready-to-use all-purpose cleaners: *'The product is not intended for large-scale cleaning'*.

b) Safety advice

The following safety advice (or equivalent) shall appear on the product in text or as pictogram:

- 'Keep away from children',
- 'Do not mix different cleaners',
- 'Avoid inhaling sprayed product' (only for products that are packaged as sprays).

Assessment and verification: the applicant shall provide a sample of the product packaging, including the label to the competent body, together with a declaration of compliance with each part of this Criterion

Proposed criterion 9 – "User information"

The detergent shall be accompanied by instructions for proper use so as to maximise product performance and minimise waste. These instructions shall be legible or include graphical representation or icons and include information on:

a) dosing instructions

The primary packaging shall include information on the recommended dosage and dilution instructions:

- For ready-to-use products: in ml or other relevant and well-known metric per application. The following text (or equivalent) shall appear on the packaging of ready-to-use products: *'The product is intended only for small or limited cleaning tasks. For extensive cleaning operations use a concentrated formulation.'*
- For undiluted products: in ml or other relevant and well-known metric per application, with instructions on dilution volumes.

The following text (or equivalent text) shall appear on packaging for all products: *"Proper dosage saves costs and minimises environmental impacts"*.

b) safety advice

The following safety advice (or equivalent) shall appear on the product in text or as pictogram:

- 'Keep away from children',
- 'Do not mix different cleaners',
- 'Avoid inhaling sprayed product' (only for products that are packaged as sprays).
-

c) resource saving measures

An indication on the primary packaging shall encourage users to use cold tap water, if applicable.

d) packaging disposal information

The primary packaging shall include information on the reuse, recycling and/or correct disposal of packaging.

e) environmental information (voluntary)

The following text is recommended to appear on the primary packaging but its use is voluntary:

"All detergents have an effect on the environment. Always use the correct dose for maximum effectiveness, the lowest recommended temperature. This will minimize both energy and water consumption and reduce

water pollution".

Assessment and verification: The applicant shall provide a sample of the product packaging, including the label.

Rationale and discussion

Information appearing on the packaging provides useful information on how the user should use the product most effectively to achieve the best cleaning results whilst minimising the environmental impacts. The dosage instructions are an important requirement as they aim to prevent overdosing of the product. In terms of environmental performance of the product dosing is an important parameter as overdosing increases the environmental burden of the product through the unnecessary emission of chemicals. As such it is important that the requirements on product dosing are clear and easy to use. For concentrated products that require dilution prior to use, it is essential that it clearly states on the label/product information sheet how the product is to be diluted. As incorrect dosage of concentrated products can easily lead to overdosing. This is already emphasised in the current dosing instructions through the phrase "*Proper dosage saves costs and minimises environmental impacts*". No further additions to the dosage instructions for APCs are required.

Rewording of text on dosage instructions

In response to the consultation, stakeholders commented that the phrase 'this product is not intended for large scale cleaning' was confusing and lost its original meaning when translated into other languages. Consequently an alternative wording has been proposed:

"The product is intended only for small or limited cleaning tasks. For extensive cleaning operations use a concentrated formulation."

The aim of this label is to signify to users that a concentrated product instead of a ready-to-use one should be employed if the cleaning task is extensive.

Consultation questions

1	Is the proposed wording clear and an improvement?
---	---

5.8.12 Criterion 10: Information appearing on the EU Ecolabel

Current criterion 10

Optional label with text box shall contain the following text:

- ‘— reduced impact on aquatic life,
- reduced use of hazardous substances,
- reduced packaging waste,
- clear user instructions.’

The guidelines for the use of the optional label with text box can be found in the ‘Guidelines for the use of the EU Ecolabel logo’ on the website: http://ec.europa.eu/environment/ecolabel/promo/logos_en.htm

Assessment and verification: the applicant shall provide a sample of the label, together with a declaration of compliance with this Criterion.

Proposed criterion 10

The logo should be visible and legible. The use of the EU Ecolabel logo is protected in primary EU law. The EU Ecolabel registration/licence number must appear on the product, it must be legible and clearly visible.

The optional label with text box shall contain the following text:

- reduced impact on aquatic ecosystems
- limited hazardous substances
- performance tested

Assessment and verification: The applicant shall provide a sample of the product packaging, including the label.

Rationale and discussion

Information on the harmonised text for the Criterion on Information appearing on the EU Ecolabel can be found in the Technical Annex (Section 7.14).

Consultation questions

- | | |
|---|--|
| 1 | Are the proposed statements suitable, illustrative of claims and an improvement? |
|---|--|

5.8.13 Criterion 11: Professional training

Current criterion 11

For detergents, which are used by professional users, the producer, its distributor or a third party shall offer training or training materials for cleaning staff. These shall include step-by-step instructions for proper dilution, use, disposal and the use of equipment.

Assessment and verification: a sample of training material containing step-by-step instructions for proper dilution, use, disposal and the use of equipment and a description of training courses shall be provided to the competent body.

Proposed criterion 11

a) alternative 1: (to be discussed during the 1st AHWG meeting)

For detergents, which are used by professional users, the producer, its distributor or a third party shall offer training or training materials for cleaning staff. These shall include step-by-step instructions for proper dilution, use, disposal and the use of equipment. [The producer shall also provide product information sheets for users.](#)

Assessment and verification: a sample of training material containing step-by-step instructions for proper dilution, use, disposal and the use of equipment and a description of training courses shall be provided to the competent body..

b) alternative 2: (to be discussed during the 1st AHWG meeting)

[withdraw the criteria](#)

Rationale and discussion

During stakeholder consultation, contradictory information was obtained on the subject of product information sheets. For this reason, two alternatives are considered for discussion. In the first alternative, a sentence has been added as some products users may benefit from additional instructions which cannot fit on the product label. As the use phase of the product can have a significant impact on the overall environmental profile of the product, in particular with regard to the use of warm water, it is proposed that a product information sheet should be provided for professional users.

In the second alternative, withdraw of the criterion is proposed. The reasons behind are that this criterion does not bring additional environmental benefits to the product itself and that the training is proposed to be included in other schemes such as EU Ecolabel for cleaning services or GPP for cleaning services.

Consultation questions

1	Are product information sheets useful for training purposes?
---	--

5.8.14 Criterion NEW - Sustainable sourcing of palm oil, palm kernel oil and their derivatives

Proposed addition

Ingredients used in the product which are derived from palm oil or palm kernel oil must be sourced from plantations that meet the criteria for sustainable management that have been developed by multi-stakeholder organisations who have a broad based membership including NGOs, industry and government.

Assessment and verification: the applicant shall provide third-party certifications that the palm oil used in the manufacturing of the product originates from sustainable managed plantations. Certifications accepted shall include RSPO (by identified preserved, segregates or mass balance) or any equivalent scheme based on multi-stakeholder sustainable management criteria. For chemical derivatives of palm oil it is acceptable to demonstrate sustainability for these through book and claim systems such as GreenPalm or equivalent.

Rationale and discussion

Further information on this criterion can be found in the Technical Annexe (Section 7.15).

5.9 Appendix

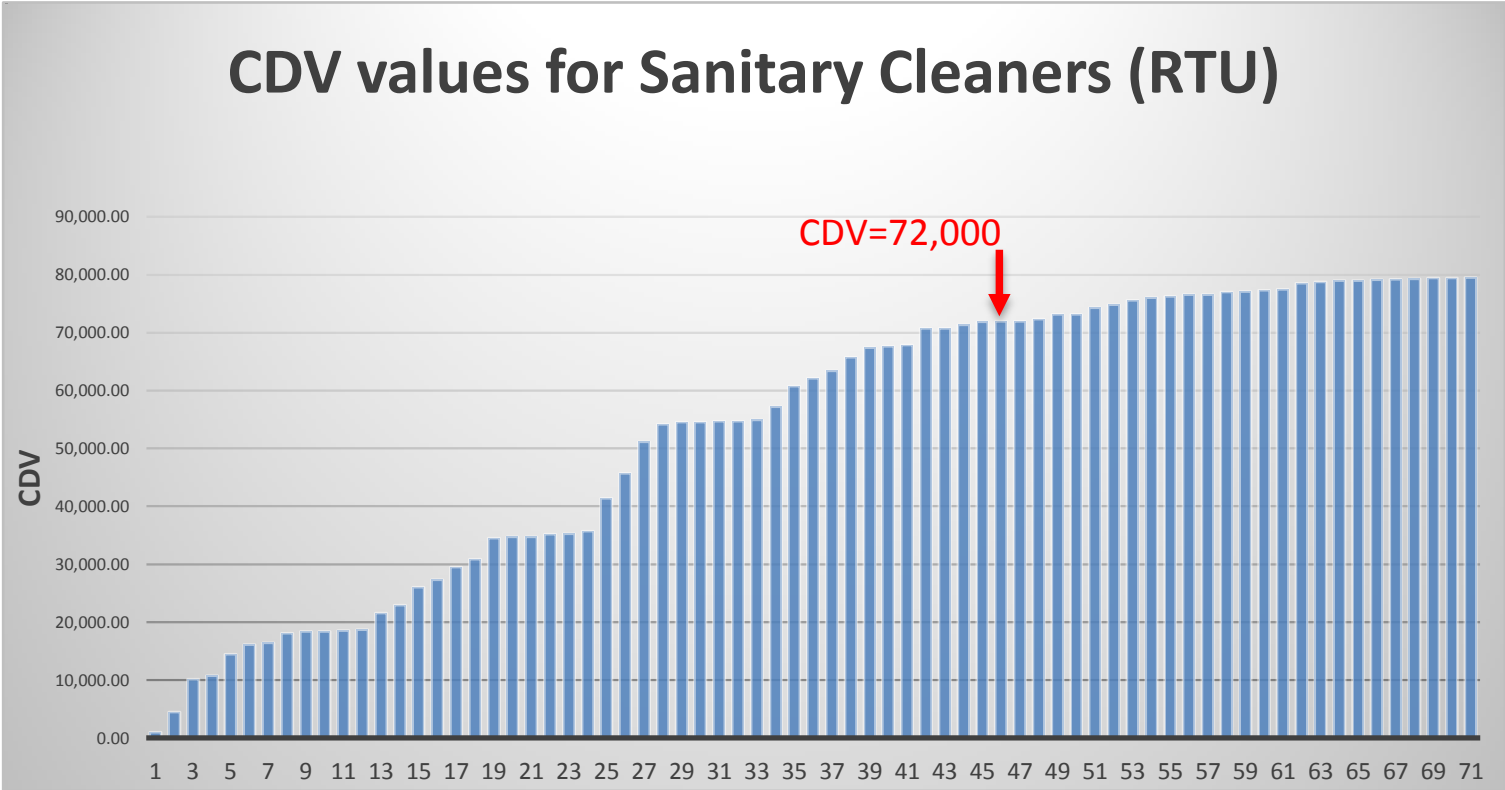


Figure 9: CVD values for recorded EU Ecolabel applications in the sanitary cleaners (RTU) category

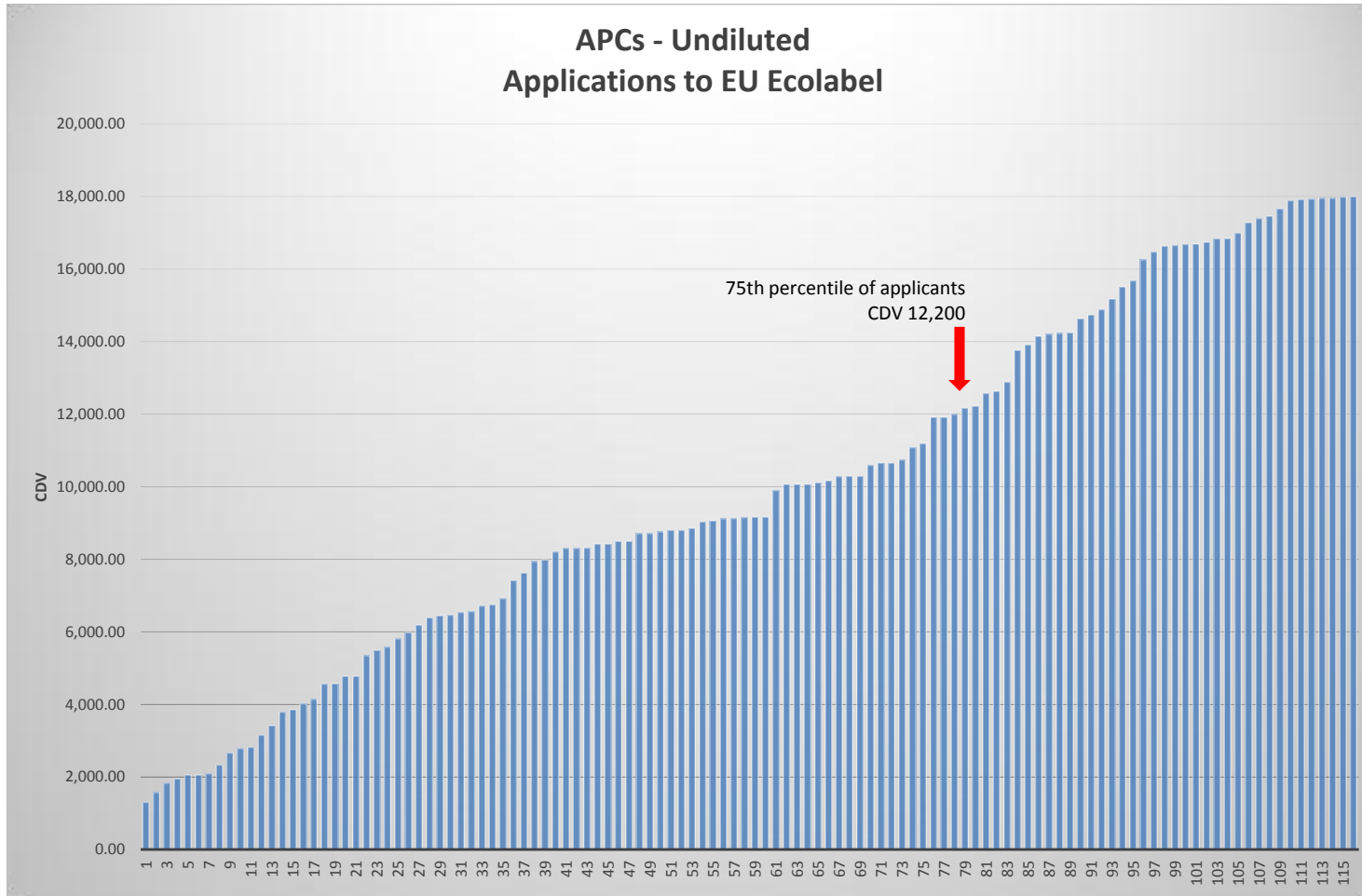


Figure 10: CDV values for recorded EU Ecolabel applications in the category All-Purpose Cleaners - Concentrated

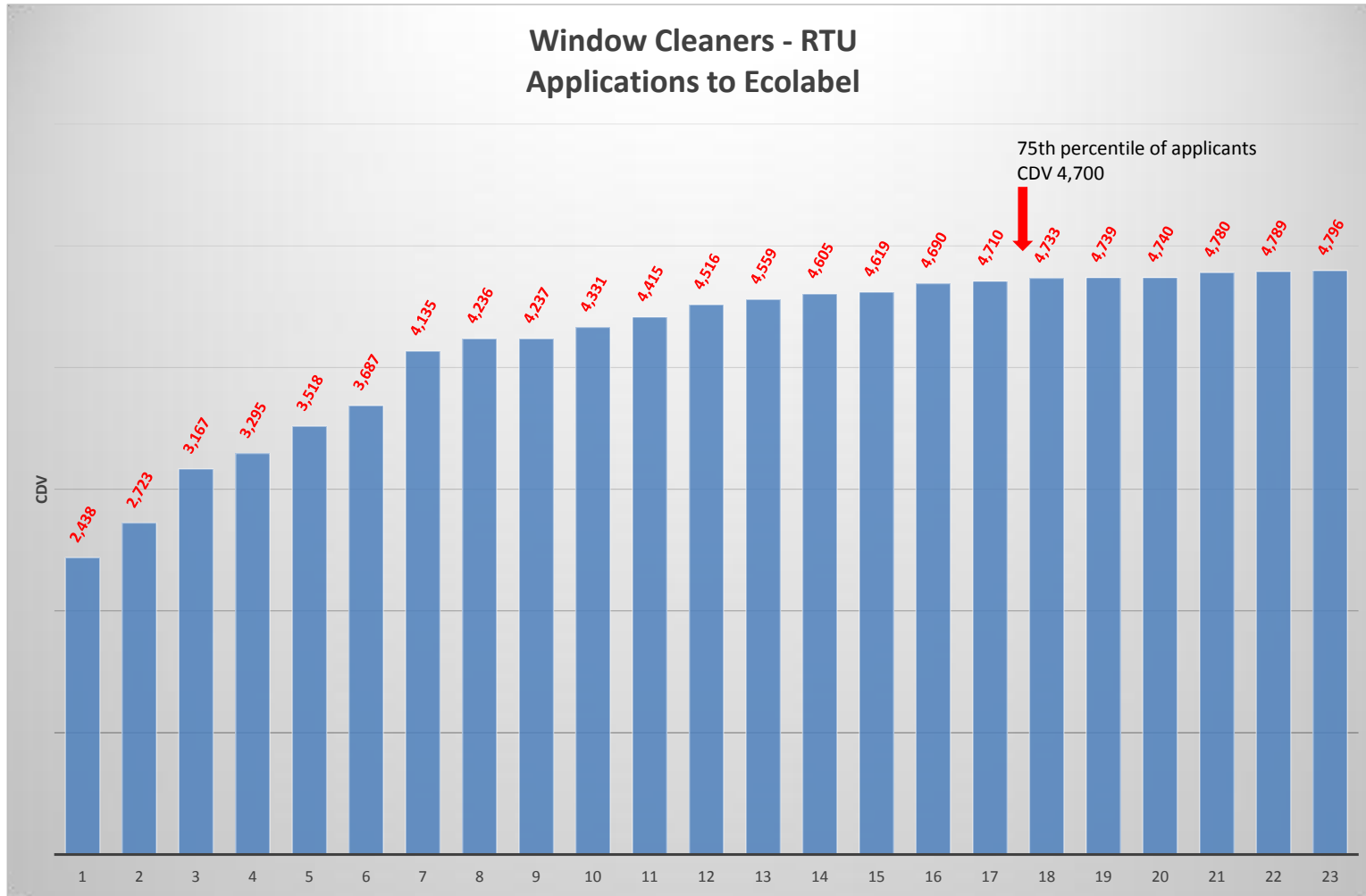


Figure 11: CDV values for recorded EU Ecolabel applications in the category Window Cleaners



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6 HAND DISHWASHING DETERGENTS

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6.1 Introduction

The following Technical Report presents a proposal of revised EU Ecolabel criteria for the product group of "hand dishwashing detergents" (HDD). The study has been carried out by the Joint Research Centre's Institute for Prospective Technological Studies (JRC-IPTS) with technical support from Oakdene Hollins and PRé Consultants. The work is being developed for the European Commission's Directorate General for the Environment.

The recommendations for the revision of the current criteria are based on technical analysis, including a Life Cycle Assessment (LCA) assessing the environmental impacts of products covered by the scope of the product group and other scientific sources, and input received from stakeholders.

This document is complemented by the Preliminary Report⁶⁵ on the revision of the European Ecolabel criteria for Hand Dishwashing Detergents and a Technical Annexe. The Preliminary Report covers in detail areas such as: scope and legislative analysis (Task 1), market analysis (Task 2), technical analysis (Task 3) and improvement potential (Task 4). The Technical Annexe is common to all detergent product groups as they share common issues and the revisions of their EU Ecolabel criteria are being done at the same time in order to facilitate harmonisation between criteria, where appropriate.

In all, there are six sets of EU Ecolabel criteria in the detergent product groups. These are:

- laundry detergents (LD),
- industrial and institutional laundry detergents (IILD),
- detergents for dishwashers (DD),
- industrial and institutional automatic dishwasher detergents (IIDDD),
- hand dishwashing detergents (HDD),
- all-purpose cleaners and sanitary cleaners (APC).

The present document is specific to the set of criteria related to the EU Ecolabel for hand dishwashing detergents. Its main purpose is to summarise the proposed criteria changes as well as provide a brief overview of background information related to each criterion and the rationale behind the proposal. Where these are common for different EU Ecolabel product groups and/or are due to harmonisation efforts, reference is made to a section of the Technical Annexe. Both documents, as well as the Preliminary Report, should be consulted to gain a full understanding of this revision process.

A revision of EU Ecolabel criteria must ensure that, based on impacts of the products covered by the EU Ecolabel for "hand dishwashing detergents" at all life-cycle stages:

- The existing criteria are still relevant and that appropriately challenging targets, thresholds or usage information are established based on the latest knowledge of market norms, user behaviours, life-cycle impacts and hazards.
- Any new candidates for criteria suggested by either the LCA or the stakeholder survey are adequately considered and evaluation criteria justified.
- Opportunities to rationalise criteria, i.e. remove, simplify and combine (within the group) or harmonise (between product groups), are examined and justified.

The main criteria changes proposed in this report are as follows:

- An update of several criteria with updated values and new values for categories of products that are not covered in the current criteria.

⁶⁵ <http://susproc.jrc.ec.europa.eu/detergents/stakeholders.html>

6.2 Preliminary report – summary and links to the revision and/or development of EU Ecolabel criteria

The Preliminary Report presents the research carried out, through stakeholder surveys, market analysis, legal review and an environmental performance investigation, on areas related to the product group covered by the EU Ecolabel on hand dishwashing detergents. The report provides background information that underpins to the new criteria proposals.

The main findings of the Preliminary Report are:

- The *market analysis* reported that the total retail value of the EU market for hand dishwashing detergents is €1.8 bn. Innovation in the hand dishwashing detergents market is relatively limited, and is primarily driven by adding functionality to the product. The range of hand dishwashing detergent products available includes budget variety, premium products and environmentally friendly versions.

- The *technical analysis* found that the key environmental impacts of hand dishwashing detergents can be summarised as follows:

- The life cycle stage with the largest contribution to the environmental impact profile of hand dishwashing detergents is - by far - the use phase, particularly the energy needed to heat the water. For some impact categories, the sourcing of raw materials and the end of life are also important.

- Based on the normalisation assessment, by far the most important impact categories for hand dishwashing detergents in Europe are natural land transformation and fossil depletion.

The results of the LCA for a hand dishwashing detergent conducted as part of the technical analysis (see chapter 4 of the Preliminary Report) are shown in Figure 12. The ingredients represent an important contribution to characterised midpoint results, in particular for terrestrial ecotoxicity, agricultural land occupation and natural land transformation. Of all the ingredients, the surfactant ethoxylated alcohol accounts for the largest contribution to these impact categories. However, the use phase is by far the most dominant for the impact categories. The manufacturing and disposal phases are also important contributors to the freshwater, terrestrial and marine ecotoxicity impact categories.

The key environmental performance indicators (KPIs), i.e. those variables that mainly drive the results for hand dishwashing detergents in Europe, based on the results of this study, are (not ranked):

- Amount of product used,
- Formulation; specifically the choice and amount of surfactants,
- Energy consumed to heat the water (if warm water is used),
- Energy source used to heat the water (if warm water is used).

Apart from the LCA analysis, a revision of other scientific evidences, current national schemes and legislation have been performed. These sources of information pointed out the potential presence of hazardous substances in the product that can have environmental and health impacts, and these are addressed according to Articles 6.6 and 6.7 of the Ecolabel Regulation.

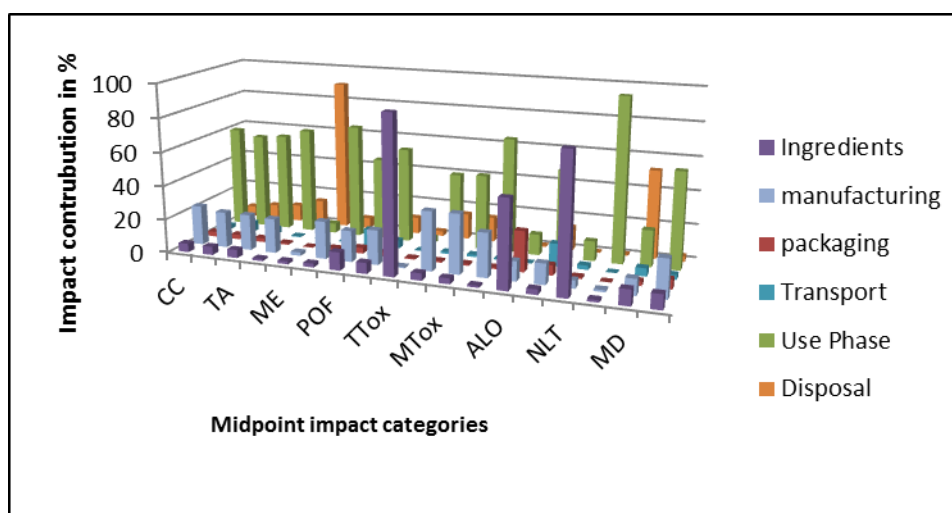


Figure 12: Impact contribution of different life cycle stages of a hand dishwashing detergent

This document shows the process and the evidences to draft the EU Ecolabel criteria that tackle the mentioned main environmental impacts identified through the LCA analysis and the non-LCA impacts identified by revising other sources. The EU Ecolabel criteria are developed to directly or indirectly address the identified LCA and non-LCA impacts (eg the choice and amount of surfactants is an environmental impact directly addressed through one or several EU Ecolabel criteria while the amount of detergent is indirectly addressed). The "energy source used to heat the water" is the only environmental impact that cannot be addressed through the EU Ecolabel as it is not directly linked to the products; even when consumers can choose the source of energy to heat the water or an electricity provider with a share of renewable energies, this is something out of the scope of what can be promoted through a product environmental label.

Moreover, even though waste generation was not among the top 4 KPIs named previously, it can still have an impact of up to 24% for some environmental aspects. This environmental impact score can even being higher in the case of window cleaners. Given the prevalence of hand dishwashing detergents in everyday life and the fact that they all come with packaging, a relatively small impact can quickly add up; thus, this aspect is also considered in the EU Ecolabel.

Table 39 shows the link between the hotspots identified as LCA and non-LCA impacts in the Preliminary Report and the revised or newly developed EU Ecolabel criteria.

Table 39: Link between the hotspots identified (LCA and non-LCA impacts) and the revised EU Ecolabel criteria

Identified hotspots (LCA and non-LCA impacts)	% of total impact ⁶⁶	Revised or new EU Ecolabel criteria	Comments on the related criteria
Energy sources to heat up the water	1-97 %	--	Out of the scope of this policy tool
Amount of product used per application	1-92 %	User information	It informs users about the amount of product to be used depending on the washing conditions
Formulation	1-92 %	Biodegradability	It ensures that surfactants are biodegradable and will not persist in the water
		Restricted substances	It ensures that hazardous surfactants are not included in the bill of materials

⁶⁶ Information provided in chapter 5 of the Preliminary Report, although aggregated in a different way, available at: <http://susproc.jrc.ec.europa.eu/detergents/stakeholders.html>

Identified hotspots (LCA and non-LCA impacts)	% of total impact ⁶⁶	Revised or new EU Ecolabel criteria	Comments on the related criteria
		Sustainable Palm oil	It ensures that renewable palm oil surfactants do not cause unnecessary strain on the ecosystem.
		Colorants	It ensures that colorants do not accumulate in the water
		Fragrances	It ensures that only a limited amount of ingredients with sensitizing properties is used
		Enzymes	It ensures that enzymes cannot be inhaled limiting health risks for users
		Preservatives	It ensures that no persistent or biocidal preservatives are included as an ingredient
Emissions to water	1-92 %	Toxicity to aquatic organisms	It ensures that the sum of the ingredients is not toxic to the aquatic organisms
		Biodegradability	It ensures that ingredients are not persistent in the water
		Restricted substances	It ensures that hazardous substances do not reach the water ways
		Colorants	It ensures that colorants do not accumulate, a limited use of ingredients with sensitizing properties and are not inhaled
		Fragrances	
		Enzymes	
Information appearing on the EU Ecolabel	It informs consumers that the product has a limited amount of hazardous substances while they are making purchase decisions		
Energy consumed to heat up the water	1-97 %	User information	The criterion encourages users to opt for lower amounts of water and encourages to use the lower suitable water temperature It provides information to the users on how to wash to get the most of the product damaging the least the environment
		Fitness for use	It ensures consumers that the product is fit to wash at realistic conditions
		Information appearing on the EU Ecolabel	It informs consumers that the product is fit for washing while they are making purchase decisions
Waste generation	0-24 %	Packaging	It ensures that limited amount of waste will be generated and that this waste can be recycled
		User information	It reminds consumers to dispose the packaging in a responsible manner
Water consumption	Not rated	User information	The criterion encourages users not to let the water running during the washing It provides information to the users on how to wash to get the most of the product damaging the least the environment
Hazardous substances	No rated	Hazardous substances and mixtures	This criterion limits the hazardous substances and mixtures that can be included in the product limiting environmental and health risks for consumers
		Ingoing substances listed in accordance with Article 59(1) of Regulation (EC) No 1907/2006	
		Corrosive properties	It ensures that human and health risks are minimized.
		Information appearing on the EU Ecolabel	It informs consumers that the product has a limited amount of hazardous substances while they are making purchase decisions

6.3 Summary of the feedback requested from stakeholders

HAND DISHWASHING DETERGENTS		
CRITERION / SECTION	QUESTIONS FOR CONSULTATION	
Name, definition and scope	1	Should the product scope exclude products with disinfecting properties?
	2	Do you agree with the proposed change of the wording?
	3	Should micro-organisms be considered for inclusion in the EU Ecolabel? Background information on the subject is sought from stakeholders.
Measurement thresholds	1	Are any other changes needed to the assessment and verification requirements and measurement thresholds?
Toxicity to aquatic life	1	Is the stricter CDV limit appropriate?
Biodegradability	1	Is the proposed approach to biodegradability suitable for HDD?
	2	What would be the appropriate limits for aNBO and anNBO? Could stakeholders please share with the project team data on the amount of aNBO and anNBO organic substances and mixtures in the product groups covered?
Excluded or limited substances	1	Are exclusions required for other substances?
Packaging	1	Packaging is not one of the top 4 KPIs for hand dishwashing detergents, should a criterion related to it be kept?
	2	Are the WUR limits appropriate?
	3	Is the design for recycling requirement suitable for this product group?
Fitness for use	1	Should the number of repetitions required under the 'Framework for testing the performance of hand dishwashing detergents' be increased to at least 20 (this was also proposed for APCs)?
	2	Does the criterion need to provide further information regarding the specification and supply of test soil?
User Instructions	1	Are separate dosage instructions required for professional and non-professional users?
	2	Are the proposed dosage instructions clear and easy to understand?
	3	Is the use of icons or graphical information an added-value to the product?
Information appearing on the EU Ecolabel	1	Are the proposed statements suitable, illustrative of claims and an improvement?

6.4 Criteria structure comparison table

STRUCTURE OF THE CRITERIA	
Current organisation of the EU Ecolabel criteria	Potential changes, modifications or amendments
Criterion 1: Toxicity to aquatic organisms Criterion 2: Biodegradability of surfactants Criterion 3: Excluded or limited substances and mixtures Criterion 4: Fragrances Criterion 5: Corrosive properties Criterion 6: Packaging requirements Criterion 7: Fitness for use Criterion 8: User instructions Criterion 9: Information appearing in the EU Ecolabel	Criterion 1: Toxicity to aquatic organisms Criterion 2: Biodegradability Criterion 3: Sustainable sourcing of palm oil, etc. Criterion 4: Restricted substances Criterion 5: Corrosive properties Criterion 6: Packaging Criterion 7: Fitness for use Criterion 8: User information Criterion 9: Information appearing on the EU Ecolabel
	The proposed changes to the structure reflect the fact that certain criteria are proposed to be merged. This is applied to the current EU Ecolabel criterion on fragrances that will be integrated into the proposed EU Ecolabel criterion on Excluded or limited substances and mixtures. An additional criterion is proposed to cover sustainable sourcing of some ingredients.

6.5 Name and definition comparison table

NAME OF THE EU ECOLABEL	
Current name of the EU Ecolabel	Potential changes, modifications or amendments
Hand dishwashing detergents	(no changes)
DEFINITION OF THE PRODUCT GROUP	
<p>The product group shall comprise all detergents intended to be used to wash by hand dishes, crockery, cutlery, pots, pans, kitchen utensils and so on.</p> <p>The product group shall cover products for both private and professional use. The products shall be a mixture of chemical substances and must not contain microorganisms that have been deliberately added by the manufacturer.</p>	<p>(Option 1) The product group 'Hand dishwashing detergents' shall comprise all detergents intended to be used to wash by hand glassware, crockery and kitchen utensils including cutlery, pots, pans and ovenware.</p> <p>The product group shall cover products for both private and professional use. The products shall be a mixture of chemical substances and must not contain micro-organisms that have been deliberately added by the manufacturer.</p> <p>(Option 2) The product group 'Hand dishwashing detergents' shall comprise all detergents intended to be used to wash by hand glassware, crockery and kitchen utensils including cutlery, pots, pans and ovenware.</p> <p>The product group shall cover products for both private and professional use. The products shall be a mixture of chemical substances and must not contain micro-organisms that have been deliberately added by the manufacturer.</p>
	<p>The proposed changes include a slight change in the examples given as to the application of the hand dishwashing products. This change aims to simplify the understanding of what is covered by the EU Ecolabel.</p> <p>A second option is also proposed for the scope in order to cover products containing micro-organisms. Further research is required to fully understand the implications of expanding the scope to these product groups.</p>

6.6 Comparison of existing and proposed criteria

CRITERIA					
Existing EU Ecolabel criteria	Potential changes, modifications or amendments				
Criterion 1: Toxicity to aquatic organisms					
<p>The critical dilution volume (CDV chronic) is calculated for each substance (i) using the following equation:</p> $CDV = \sum CDV(i) = 1000 \cdot \sum dosage(i) \cdot \frac{DF(i)}{TF(i)}$ <p style="text-align: center;">where</p> <p>weight (i) is the weight of the substance (in grams) contained in the dosage recommended by the manufacturer for 1 litre of dishwashing water.</p> <p>DF (i) is the degradation factor and TF chronic(i) is the toxicity factor of the substance (in milligrams/litre).</p> <p>The values of DF and TF chronic shall be as given in the detergent ingredient database list part A (DID list part A) (Appendix I). If the substance in question is not included in the DID list part A, the applicant shall estimate the values following the approach described in the DID list part B (Appendix I). The CDV chronic is summed for each substance, making the CDV chronic for the product.</p> <p>The CDV chronic shall be calculated on the basis of the dosage in grams of the product recommended by the manufacturer for preparing 1 litre of dishwashing water for cleaning of normally soiled dishes. The CDV chronic of the recommended dose expressed for 1 litre of dishwashing water shall not exceed 3 800 litres.</p> <p>Assessment and verification: the exact formulation of the product shall be provided to the competent body, together with the details of the CDV chronic calculations showing compliance with this criterion.</p>	<p>The critical dilution volume (CDV) of the product must not exceed the following limits for the reference dosage:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Product type</th> <th>Limit CDV</th> </tr> </thead> <tbody> <tr> <td>Hand dishwashing detergents</td> <td>2 700</td> </tr> </tbody> </table> <p>Assessment and verification: Calculation of the CDV of the product. A spreadsheet for calculation of the CDV value is available on the EU Ecolabel website.</p> <p>The Critical Dilution Volume (CDV) is calculated for all ingoing substances and mixtures (i) in the product using the following equation:</p> $CDV = \sum CDV(i) = 1000 \cdot \sum dosage(i) \cdot \frac{DF(i)}{TF(i)}$ <p>Where:</p> <p><i>dosage(i)</i>: weight (g) of the substance or mixture <i>i</i> in the reference dose, <i>DF(i)</i>: degradation factor for the substance or mixture <i>i</i> <i>TF(i)</i>: toxicity factor for the substance or mixture <i>i</i></p> <p>The values of <i>DF(i)</i> and <i>TF(i)</i> shall be as given in the DID list Part A (Appendix I). If a substance or mixture is not included in the DID list Part A, the applicant shall estimate the values follow the approach described in the DID list Part B (Appendix I).</p>	Product type	Limit CDV	Hand dishwashing detergents	2 700
Product type	Limit CDV				
Hand dishwashing detergents	2 700				
	<p>The proposed change is a stricter limit of the CDV for RTU cleaning products. The increase in the ambition level is underpinned by the CDV data collected for current EU Ecolabel holders which demonstrate that the current limit is easily achieved and the comparison to other national schemes and data collected by stakeholders.</p>				

Criterion 2: Biodegradability of organics

(a) Ready biodegradability (aerobic)

Each surfactant used in the product shall be readily biodegradable.

Assessment and verification: the exact formulation of the product as well as a description of the function of each substance shall be provided to the competent body. The DID list part A (Appendix I) indicates whether a specific surfactant is aerobically biodegradable or not (the surfactants with an entry of 'R' in the column on aerobic biodegradability are readily biodegradable). For surfactants which are not included in the DID list part A, the relevant information from literature or other sources, or appropriate test results, showing that they are aerobically biodegradable shall be provided. The tests for ready biodegradability shall be as referred to in Regulation (EC) No 648/2004 of the European Parliament and of the Council of 31 March 2004 on detergents (1). Surfactants shall be considered as readily biodegradable if the level of biodegradability (mineralisation) measured in accordance with one of the five following tests is at least 60 % within 28 days: CO₂ headspace test (OECD 310), carbon dioxide (CO₂) Evolution Modified Sturm test (OECD 301B; Council Regulation (EC) No 440/2008 (2) method C.4-C), Closed Bottle test (OECD 301D; Regulation (EC) No 440/2008 method C.4-E), Manometric Respirometry (OECD 301F; Regulation (EC) No 440/2008 method C.4-D), or MITI (I) test (OECD 301C; Regulation (EC) No 440/2008 method C.4-F), or their equivalent ISO tests. Depending on the physical characteristics of the surfactant, one of the following tests might be used to confirm ready biodegradability, if the level of biodegradability is at least 70 % within 28 days: Dissolved Organic Carbon DOC Die-Away (OECD 301A; Regulation (EC) No 440/2008 method C.4-A) or Modified OECD Screening DOC Die-Away (OECD 301E; Regulation (EC) No 440/2008 method C.4-B), or their equivalent ISO tests. The applicability of test methods based on measurement of dissolved organic carbon needs to be appropriately justified as these methods could give results on the removal and not on the biodegradability. Pre-adaptation is not to be used in tests for aerobic ready biodegradability. The 10 days window principle shall not apply.

(b) Anaerobic biodegradability

Surfactants that are not biodegradable under anaerobic conditions may be used in the product provided that the surfactants are not classified with H400/R50 (Very toxic to aquatic life) within the limit specified below.

The total weight of such anaerobically non-biodegradable surfactants must not exceed 0,20 gram of the recommended dose expressed for 1 litre of dishwashing water.

Assessment and verification: the exact formulation of the product as well as a description of the function of each substance shall be provided to the competent body. The DID list part A (Appendix I) indicates whether a specific surfactant is anaerobically

a) Biodegradability of surfactants

To be discussed at the 1st AHWG meeting.

All surfactants shall be biodegradable under aerobic conditions.

All surfactants shall be biodegradable under anaerobic conditions.

b) Biodegradability of organic substances and mixtures

To be discussed at the 1st AHWG meeting.

The content of organic substances and mixtures in the product that are aerobically non-biodegradable (not readily biodegradable aNBO) or anaerobically non-biodegradable (anNBO) shall not exceed the following limits for the reference dosage:

Product type	aNBO	anNBO
Hand dishwashing detergents	x,xx g	x,xx g

Assessment and verification: The applicant shall provide documentation for the degradability of surfactants, as well as the calculations of aNBO and anNBO for the product. A spreadsheet for use in calculating aNBO and anNBO values is available on the EU Ecolabel website.

For both surfactants and aNBO and anNBO values, reference shall be made to the DID List. For ingredients which are not included in the DID List, the relevant information from literature or other sources, or appropriate test results, showing that they are aerobically and anaerobically biodegradable shall be provided as described in Appendix I.

In the absence of documentation in accordance with the above requirements, an ingoing substances and mixtures other than a surfactant may be exempted from the requirement for anaerobic degradability if one of the following three alternatives is fulfilled:

1. Readily degradable and has low adsorption ($A < 25\%$);
2. Readily degradable and has high desorption ($D > 75\%$);
3. Readily degradable and non-bioaccumulating.

Testing for adsorption/desorption may be conducted in accordance with OECD guidelines 106.

<p>biodegradable or not (the surfactants with an entry of 'Y' in the column on anaerobic biodegradability are biodegradable under anaerobic conditions). For surfactants which are not included in the DID list (OJ L 115, 4.5.2005, p. 18 part A), the relevant information from literature or other sources, or appropriate test results, showing that they are anaerobically biodegradable shall be provided. The reference test for anaerobic degradability shall be OECD 311, ISO 11734, ECETOC No 28 (June 1988) or an equivalent test method, with the requirement of a minimum of 60 % ultimate degradability under anaerobic conditions. Test methods simulating the conditions in a relevant anaerobic environment may also be used to document that 60 % ultimate degradability has been attained under anaerobic conditions (see Appendix II).</p>	
	<p>As six EU Ecolabels related to detergents are being revised at the same time and as these products often have similar formulations, it is judicious to consider the harmonisation of their criteria. The current six EU Ecolabel criteria approach the subject using three different approaches and stakeholder consultation has yielded a multitude opinions. It has thus been decided that a discussion during the 1st AHWG meeting will be conducted. As a starting point for the harmonised approach the criterion included in the most recently voted criteria for industrial and institutional products (laundry and dishwasher detergents) is proposed. The criterion will be revised following discussions with stakeholders.</p>
<p>Criterion 3 – Excluded or limited substances and mixtures</p>	
<p>The requirements stated in (a), (b) and (c) below shall apply to each substance or mixture, including biocides, colouring agents and fragrances, that exceeds 0,010 % by weight of the final product. This includes also each substance of any mixture used in the formulation that exceeds 0,010 % by weight of the final product. Nanoforms intentionally added to the product shall prove compliance with the criterion 3(c) for any concentration.</p> <p>(a) Specified excluded substances</p> <p>The following substances shall not be included in the product, either as part of the formulation or as part of any mixture included in the formulation:</p> <ul style="list-style-type: none"> — Alkyl phenol ethoxylates (APEOs) and derivatives thereof — EDTA (ethylene-diamine-tetra-acetic acid) and its salts — 5-Bromo-5-nitro-1,3-dioxane — 2-Bromo-2-nitropropane-1,3-diol — Diazolinidylurea — Formaldehyde 	<p>a) The product shall not be formulated or manufactured using any of the following compounds:</p> <ul style="list-style-type: none"> (xxvii) EDTA (ethylenediaminetetraacetate) (xxviii) 5-bromo-5-nitro-1,3-dioxane (xxix) 2-bromo-2-nitropropane-1,3-diol (xl) Diazolinidylurea (xli) Formaldehyde (xlii) Sodium hydroxymethylglycinate (xliii) Nitro-musks and polycyclic musks (xliv) Hydroxyisohexyl 3-cyclohexene carboxaldehyde (HICC), (xlv) Atranol and Chloroatranol (xlvi) Fragrance substances subject to the declaration requirement provided for in Regulation (EC) No 648/2004 of the European Parliament and of the Council on detergents (Annex VII) and which are not already excluded by

<p>— Sodium hydroxy methyl glycinate</p> <p>— Nitro-musks and polycyclic musks including for example:</p> <p>Musk xylene: 5-Tert-butyl-2,4,6-trinitro-m-xylene</p> <p>Musk ambrette: 4-Tert-butyl-3-methoxy-2,6-dinitrotoluene</p> <p>Moskene: 1,1,3,3,5-Pentamethyl-4,6-dinitroindan</p> <p>Musk tibetine: 1-Tert-butyl-3,4,5-trimethyl-2,6-dinitrobenzene</p> <p>Musk ketone: 4'-Tert-butyl-2',6'-dimethyl-3',5'-dinitroacetaphenone</p> <p>HHCB (1,3,4,6,7,8-Hexahydro-4,6,6,7,8,8-hexamethylcyclopenta(g)-2-benzopyran)</p> <p>AHTN (6-Acetyl-1,1,2,4,4,7-hexamethyltetralin).</p> <p>Assessment and verification: the applicant shall provide a declaration supported by declarations from manufacturers, as appropriate, confirming that the listed substances have not been included in the product.</p>	<p>criteria 2b and (other) fragrance substances classified H317/R43 (May cause allergic skin reaction) and/or H334/R42 (May cause allergy or asthma symptoms or breathing difficulties if inhaled) shall not be present in quantities $\geq 0,010\%$ (≥ 100 ppm) per substance.</p> <p>(xlvii) Quaternary ammonium salts that are not readily biodegradable</p> <p>Assessment and verification: the applicant shall provide a signed declaration of compliance supported by declarations from manufacturers of mixtures, as appropriate, confirming that the listed substances and/or mixtures have not been included in the product.</p> <p>The applicant shall provide documentation showing the biodegradability of any quaternary ammonium salt used.</p> <p>The applicant shall also provide a declaration from the fragrance manufacturer specifying the content of each of the substances in the fragrances which are listed in Annex III of the Regulation (EC) No 1223/2009.</p>											
<p>(b) Quaternary ammonium salts that are not readily biodegradable shall not be used, either as part of the formulation or as part of any mixture included in the formulation.</p> <p>Assessment and verification: the applicant shall provide documentation showing the biodegradability of any quaternary ammonium salt used.</p>	<p>(moved to 3a)</p>											
<p>(c) Hazardous substances and mixtures</p> <p>According to the Article 6(6) of Regulation (EC) No 66/2010 on the EU Ecolabel, the product or any part of it shall not contain substances (in any forms, including nanoforms) meeting the criteria for classification with the hazard statements or risk phrases specified below in accordance with Regulation (EC) No 1272/2008 of the European Parliament and of the Council (1) or Council Directive 67/548/EEC (2), nor shall it contain substances referred to in Article 57 of Regulation (EC) No 1907/2006 of the European Parliament and of the Council (3). The risk phrases below generally refer to substances. However, for mixtures of enzymes and fragrances, where information on substances cannot be obtained, the classification rules for mixtures shall be applied.</p> <p>List of hazard statements and risk phrases:</p> <table border="1"> <thead> <tr> <th>GHS Hazard Statement</th> <th>EU Risk Phrase</th> </tr> </thead> <tbody> <tr> <td>H300 Fatal if swallowed</td> <td>R28</td> </tr> <tr> <td>H301 Toxic if swallowed</td> <td>R25</td> </tr> </tbody> </table>	GHS Hazard Statement	EU Risk Phrase	H300 Fatal if swallowed	R28	H301 Toxic if swallowed	R25	<p>b) According to Article 6(6) of Regulation (EC) No 66/2010, the EU Ecolabel may not be awarded to any product that contains substances meeting criteria for classification with the hazard statements specified in Table 40 in accordance with Regulation (EC) No 1272/2008 of the European Parliament and of the Council or Council Directive 67/548/E or substances referred to in Article 57 of Regulation (EC) No 1907/2006.. The hazard statements in Table 40 generally refer to substances. However, if information on substances cannot be obtained, the classification rules for mixtures apply.</p> <p>Substances or mixtures which change their properties through processing and thus become no longer bioavailable, or undergo chemical modification in a way that removes the previously identified hazard are exempted from criterion x(b)</p> <p>Table 40: Hazard statements</p> <table border="1"> <thead> <tr> <th>GHS Hazard Statement</th> </tr> </thead> <tbody> <tr> <td>H300 Fatal if swallowed</td> </tr> <tr> <td>H301 Toxic if swallowed</td> </tr> <tr> <td>H304 May be fatal if swallowed and enters airways</td> </tr> <tr> <td>H310 Fatal in contact with skin</td> </tr> </tbody> </table>	GHS Hazard Statement	H300 Fatal if swallowed	H301 Toxic if swallowed	H304 May be fatal if swallowed and enters airways	H310 Fatal in contact with skin
GHS Hazard Statement	EU Risk Phrase											
H300 Fatal if swallowed	R28											
H301 Toxic if swallowed	R25											
GHS Hazard Statement												
H300 Fatal if swallowed												
H301 Toxic if swallowed												
H304 May be fatal if swallowed and enters airways												
H310 Fatal in contact with skin												

H304 May be fatal if swallowed and enters airways	R65	H311 Toxic in contact with skin	
H310 Fatal in contact with skin	R27	H330 Fatal if inhaled	
H311 Toxic in contact with skin	R24	H331 Toxic if inhaled	
H330 Fatal if inhaled	R23/26	H340 May cause genetic defects	
H331 Toxic if inhaled	R23	H341 Suspected of causing genetic defects	
H340 May cause genetic defects	R46	H350 May cause cancer	
H341 Suspected of causing genetic defects	R68	H350i May cause cancer by inhalation	
H350 May cause cancer	R45	H351 Suspected of causing cancer	
H350i May cause cancer by inhalation	R49	H360F May damage fertility	
H351 Suspected of causing cancer	R40	H360D May damage the unborn child	
H360F May damage fertility	R60	H360FD May damage fertility. May damage the unborn child	
H360D May damage the unborn child	R61	H360Fd May damage fertility. Suspected of damaging the unborn child	
H360FD May damage fertility. May damage the unborn child	R60-61	H360Df May damage the unborn child. Suspected of damaging fertility	
H360Fd May damage fertility. Suspected of damaging the unborn child	R60-63	H361f Suspected of damaging fertility	
H360Df May damage the unborn child. Suspected of damaging fertility	R61-62	H361d Suspected of damaging the unborn child	
H361f Suspected of damaging fertility	R62	H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.	
H361d Suspected of damaging the unborn child	R63	H362 May cause harm to breast fed children	
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.	R62-63	H370 Causes damage to organs	
H362 May cause harm to breast fed children	R64	H371 May cause damage to organs	
H370 Causes damage to organs	R39/23; R39/24; R39/25; R39/26; R39/27; R39/28	H372 Causes damage to organs through prolonged or repeated exposure	
H371 May cause damage to organs	R68/20; R68/21; R68/22	H373 May cause damage to organs through prolonged or repeated exposure	
H372 Causes damage to organs through prolonged or repeated exposure	R48/25; R48/24; R48/23	H400 Very toxic to aquatic life	
H373 May cause damage to organs through prolonged or repeated exposure	R48/20; R48/21; R48/22	H410 Very toxic to aquatic life with long-lasting effects	
H400 Very toxic to aquatic life	R50	H411 Toxic to aquatic life with long-lasting effects	
H410 Very toxic to aquatic life with long-lasting effects	R50-53	H412 Harmful to aquatic life with long-lasting effects	
H411 Toxic to aquatic life with long-lasting effects	R51-53	H413 May cause long-lasting harmful effects to aquatic life	
		EUH059 Hazardous to the ozone layer	
		EUH029 Contact with water liberates toxic gas	
		EUH031 Contact with acids liberates toxic gas	
		EUH032 Contact with acids liberates very toxic gas	
		EUH070 Toxic by eye contact	
		Sensitising substances	
		H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled	
		H317: May cause allergic skin reaction	

This criterion applies to all ingredients present in concentrations $\geq 0,01$ %,

H412 Harmful to aquatic life with long-lasting effects	R52-53
H413 May cause long-lasting harmful effects to aquatic life	R53
EUH059 Hazardous to the ozone layer	R59
EUH029 Contact with water liberates toxic gas	R29
EUH031 Contact with acids liberates toxic gas	R31
EUH032 Contact with acids liberates very toxic gas	R32
EUH070 Toxic by eye contact	R39-41
Sensitising substances	
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled	R42
H317: May cause allergic skin reaction	R43

Substances or mixtures which change their properties upon processing (e.g. become no longer bioavailable, undergo chemical modification) so that the identified hazard no longer applies are exempted from the above requirement

(*) The percentage must be divided by the M-factor established in accordance with the Regulation (EC) No 1272/2008. (**) Including stabilisers and other auxiliary substances in the preparations. (***) In concentrations lower than 1,0 % in the raw material as long as the total concentration in the final product is lower than 0,10 %.

Assessment and verification: the applicant shall provide the exact formulation of the product to the competent body. The applicant shall demonstrate compliance with this criterion for substances in the product on the basis of information consisting as a minimum of that specified in Annex VII to the Regulation (EC) No 1907/2006. Such information shall be specific to the particular form of the substance, including nanoforms, used in the product. For that purpose, the applicant shall provide a declaration of compliance with this criterion, together with a list of ingredients and related safety data sheets in accordance with Annex II to Regulation (EC) No 1907/2006 for the product as well as for all substances listed in the formulation(s). Concentration limits shall be specified in the safety data sheets in accordance with Article 31 of Regulation (EC) No 1907/2006.

including preservatives, colouring agents and fragrances.

For hand dishwashing products, the substances in Table 41 are exempted from the obligation in Article 6(6) of Regulation (EC) No 66/2010 following application of Article 6(7) of the same Regulation.

Table 41: Derogated substances - To be discussed in the 1st AHWG meeting

Derogated substance	H phrases
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Assessment and verification: the applicant shall demonstrate compliance with criterion x(b) for any ingoing substance or mixture present at concentrations greater than 0,010% in the product.

A declaration of compliance shall be provided by the applicant supported, where appropriate, by the declarations from producer(s) of the raw materials that none of these ingoing substances and/or mixtures meet the criteria for classification with one or more of hazard statements listed in Table 40 in the form(s) and physical state(s) they are present in the product.

The following technical information related to the form(s) and physical state(s) of the ingoing substances and/or mixtures as present in the product shall be provided to support the declaration of non-classification:

- (i) For substances that have not been registered under Regulation (EC) No 1907/2006 and/or which do not yet have a harmonised CLP classification: Information meeting the requirements listed in Annex VII to that Regulation;
- (ii) For substances that have been registered under Regulation (EC) No 1907/2006 and which do not meet the requirements for CLP classification: Information based on the REACH registration dossier confirming the non-classified status of the substance;
- (iii) For substances that have a harmonised classification or are self-classified: safety data sheets where available. If these are not available or the substance is self-classified then information shall be provided relevant to the substances hazard classification according to Annex II to Regulation (EC) No 1907/2006;
- (iv) In the case of mixtures: safety data sheets where available. If these are not available then calculation of the mixture classification shall be provided according to the rules under Regulation (EC) No 1272/2008 together with information relevant to the mixtures hazard classification according to Annex II to Regulation (EC) No 1907/2006.

For substances listed in Annexes IV and V to Regulation (EC) No 1907/2006, which are exempted from registration obligations under point (a) and (b) of Article 2(7) of that Regulation, a declaration to this effect by the applicant shall suffice to comply with criterion 3(b).

A declaration on the presence of ingoing substances that fulfil the derogation

	<p>conditions shall be provided by the applicant, supported, where appropriate, by declarations from the producer(s) of the raw materials. Where required for the derogation, the applicant shall confirm the concentrations of these ingoing substances in the final product.</p>
<p><u>(d) Substances listed in accordance with Article 59(1) of Regulation (EC) No 1907/2006</u></p> <p>No derogation from the exclusion in Article 6(6) of Regulation (EC) No 66/2010 may be given concerning substances identified as substances of very high concern and included in the list foreseen in Article 59 of Regulation (EC) No 1907/2006 present in mixtures in concentrations higher than 0,010 %.</p> <p>Assessment and verification: the list of substances identified as substances of very high concern and included in the candidate list in accordance with Article 59 of Regulation (EC) No 1907/2006 can be found here: http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp Reference to the list shall be made on the date of application. Concentration limits shall be specified in the safety data sheets in accordance with Article 31 of Regulation (EC) No 1907/2006.</p>	<p><u>c) Substances listed in accordance with Article 59(1) of Regulation (EC) No 1907/2006</u></p> <p>No derogation from the exclusion in Article 6(6) of Regulation (EC) No 66/2010 shall be given concerning ingoing substances identified as substances of very high concern and included in the list provided for in Article 59(1) of Regulation (EC) No 1907/2006⁶⁷, present in the product in concentrations higher than 0.010 % (weight by weight).</p> <p>Assessment and verification: reference to the list of substances identified as substances of very high concern shall be made on the date of application. The applicant shall provide the full formulation of the product to the competent body. The applicant shall also provide a declaration of compliance with criterion 3(c), together with related documentation, such as declarations of compliance signed by the material suppliers and copies of relevant safety data sheets for substances or mixtures.</p>
<p><u>(e) Biocides</u></p> <p>(i) The product may only include biocides in order to preserve the product, and in the appropriate dosage for this purpose alone. This does not refer to surfactants, which may also have biocidal properties.</p> <p>Assessment and verification: the applicant shall provide copies of the material safety data sheets of any preservatives added, together with information on their exact concentration in the product. The manufacturer or supplier of the preservatives shall provide information on the dosage necessary to preserve the product.</p> <p>(ii) It is prohibited to claim or suggest on the packaging or by any other communication that the product has an antimicrobial action.</p> <p>Assessment and verification: the applicant shall provide the texts and layouts used on each type of packaging and/or an example of each different type of packaging to the competent body.</p> <p>(iii) Biocides, either as part of the formulation or as part of any mixture included in the formulation, that are used to preserve the product and that are classified H410/R50-53</p>	<p><u>d) Preservatives</u></p> <p>(xvi) The product may contain preservatives provided that they are not bioaccumulating. A preservative is not considered bioaccumulating if $BCF < 100$ or $\log P_{ow} < 3,0$. If both BCF and $\log K_{ow}$ values are available, the highest measured BCF value shall be used.</p> <p>(xvii) Preservatives in the product shall not release or degrade to substances that are classified in accordance with the requirements of criterion 3(b) Hazardous substances and mixtures.</p> <p>(xviii) It is prohibited to claim or suggest on the packaging or by any other communication that the product has an antimicrobial action.</p> <p>Assessment and verification: the applicant shall provide a signed declaration of compliance, together with copies of the safety data sheets of any preservative added, and information on its BCF and/or $\log K_{ow}$ values. The applicant shall provide also artwork of the packaging.</p>

⁶⁷

http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp

<p>or H411/R51-53 in accordance with Directive 67/548/EEC, Directive 1999/45/EC of the European Parliament and of the Council (1) or Regulation (EC) No 1272/2008, are permitted but only if their bioaccumulation potentials are characterised by log Pow (log octanol/water partition coefficient) < 3,0 or an experimentally determined bioconcentration factor (BCF) ≤ 100.</p> <p>Assessment and verification: the applicant shall provide copies of the material safety data sheets for all biocides, together with a documentation of the concentrations of the biocides in the final product.</p>	
	<p>The proposed changes mainly aim to consolidate the list of excluded substances as it can be found right now. As fragrances are proposed to no longer be treated in a separate criterion, the excluded fragrances are included in the list. Stakeholder feedback indicated that quaternary ammonium salts are still an issue in detergents, and thus all non-readily biodegradable quaternary ammonium salts are on the list of excluded substances.</p> <p>It is also proposed to remove the requirement for biocides to only be included for preservation purposes as it is impossible for competent bodies to verify the compliance with this type of requirement. It is also proposed to consider the substances that are released as biocides degrade.</p>
Criterion 4 — Fragrances	
<p>(a) The product shall not contain perfumes containing nitro-musks or polycyclic musks (as specified in criterion 3(a)).</p> <p>(b) Any substances added to the product as a fragrance must have been manufactured and/or handled in accordance with the code of practice of the International Fragrance Association. The code can be found on IFRA website: http://www.ifraorg.org</p> <p>(c) Fragrance substances subject to the declaration requirement provided for in Regulation (EC) No 648/2004 on detergents (Annex VII) and which are not already excluded by criterion 3(c) and (other) fragrance substances classified H317/R43 (May cause allergic skin reaction) and/or H334/R42 (May cause allergy or asthma symptoms or breathing difficulties if inhaled) shall not be present in quantities ≥ 0,010 % (≥ 100 ppm) per substance.</p> <p>(d) Fragrances shall not be used in hand dishwashing detergents for professional use.</p> <p>Assessment and verification: a declaration of compliance with each part of criterion (a), (b) and (d). For criterion (c), the applicant shall provide a signed declaration of compliance indicating the amount of fragrances in the product. The applicant shall also provide a declaration from the fragrance manufacturer specifying the content of each of the substances in the fragrances which are listed in Annex III, Part I to Council Directive 76/768/EEC (1) as well as the content of (other) substances which have been</p>	<p>Criterion 3(e): Fragrances</p> <p>(i) Any ingoing substance or mixture added to the product as a fragrance shall be manufactured and handled following the code of practice of the International Fragrance Association (IFRA). The code can be found on the IFRA website: http://www.ifraorg.org. The recommendations of the IFRA Standards concerning prohibition, restricted use and specified purity criteria for materials shall be followed by the manufacturer.</p> <p>Fragrances shall not be used in hand dishwashing detergents for professional use.</p> <p>Assessment and verification: the applicant shall provide a signed declaration of compliance, supported by a declaration of the fragrance manufacturer, as appropriate.</p>

<p>assigned the risk phrases R43/H317 and/or R42/H334</p>	<p>It is proposed to move the requirements related to fragrances from Criterion 4 to Criterion (e) and exclusions of the specific fragrances to sub-criterion (a). No content-wise modifications are proposed.</p>								
<p>Criterion 5 – Corrosive properties</p>									
<p>The product shall not be classified as a ‘Corrosive’ (C) mixture with R34 or R35 in accordance with Directive 1999/45/EC, or as a ‘Skin Category 1’ mixture in accordance with Regulation (EC) No 1272/2008.</p> <p>Assessment and verification: the applicant shall provide the exact concentrations of all substances used in the product, either as part of the formulation or as part of any mixture included in the formulation, that are classified as ‘Corrosive’ (C) with R34 or R35 in accordance with Directive 1999/45/EC, or as a ‘Skin Category 1’ mixture in accordance with Regulation (EC) No 1272/2008 to the competent body, together with copies of the material safety data sheets. .</p>	<p>The product shall not be classified as a ‘Corrosive’ (C) mixture with R34 or R35 in accordance with Directive 1999/45/EC, or as a ‘Skin Category 1’ mixture in accordance with Regulation (EC) No 1272/2008.</p> <p>Assessment and verification: the applicant shall provide the exact concentrations of all substances used in the product, either as part of the formulation or as part of any mixture included in the formulation, that are classified as ‘Corrosive’ (C) with R34 or R35 in accordance with Directive 1999/45/EC, or as a ‘Skin Category 1’ mixture in accordance with Regulation (EC) No 1272/2008 to the competent body, together with copies of the material safety data sheets. .</p>								
<p>The issue is still relevant and the assessment and verification method is applicable.</p>									
<p>Criterion 6 - Packaging</p>									
<p>(a) Plastics that are used for the main container shall be marked in accordance with the European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging waste (2), or DIN 6120 part 1 and 2 in connection with DIN 7728 part 1.</p> <p>(b) If the primary packaging is made of recycled material, any indication of this on the packaging shall be in conformity with the ISO 14021 standard ‘Environmental labels and declarations — Self declared claims (type II environmental labelling)’.</p> <p>(c) Only phthalates that at the time of application have been risk assessed and have not been classified according to criterion 3(c) may be used in the plastic packaging.</p> <p>(d) The weight utility ratio (WUR) of the primary packaging must not exceed the following values:</p> <table border="1"> <thead> <tr> <th>Product type</th> <th>WUR</th> </tr> </thead> <tbody> <tr> <td>Hand dishwashing detergents that are diluted in water prior to use</td> <td>1,20 gram packaging per litre use solution (dishwashing water)</td> </tr> </tbody> </table> <p>WUR is calculated only for the primary packaging (including caps, stoppers and hand</p>	Product type	WUR	Hand dishwashing detergents that are diluted in water prior to use	1,20 gram packaging per litre use solution (dishwashing water)	<p>a) Weight/utility ratio (WUR)</p> <p>The weight/utility ratio (WUR) of the product shall be calculated for the primary packaging only and shall not exceed the following values for the reference dosage:</p> <table border="1"> <thead> <tr> <th>Product type</th> <th>WUR</th> </tr> </thead> <tbody> <tr> <td>Hand dishwashing detergents</td> <td>1,20 g</td> </tr> </tbody> </table> <p>Are exempted from this requirement:</p> <ul style="list-style-type: none"> - Plastic/paper/cardboard packaging containing more than 80 % recycled materials, - Paper/cardboard packaging that comes 80% from certified sustainable sources, - Plastic packaging containing more than 80 % plastic from sustainable sources. <p>Assessment and verification: the applicant shall provide the calculation of the WUR of the product. A spreadsheet for this calculation is available on the EU Ecolabel website. If the product is sold in different packaging (i.e. with different volumes), the calculation shall be submitted for each packaging size for which the EU Ecolabel shall be awarded.</p> <p>The applicant shall provide a completed and signed declaration for the content of</p>	Product type	WUR	Hand dishwashing detergents	1,20 g
Product type	WUR								
Hand dishwashing detergents that are diluted in water prior to use	1,20 gram packaging per litre use solution (dishwashing water)								
Product type	WUR								
Hand dishwashing detergents	1,20 g								

pumps/spraying devices) by using the formula below:

$$WUR = \sum ((W_i + U_i) / (D_i * r_i))$$

where

W_i = The weight (g) of the primary packaging (i) including label if applicable.

U_i = The weight (g) of non-recycled (virgin) material in the primary packaging (i). If the proportion of recycled material in the primary packaging is 0 %, then $U_i = W_i$.

D_i = The number of functional doses (= number of the dosage volume which is recommended by the manufacturer for 1 litre of washing water) contained in the primary packaging (i).

r_i = Recycling figure, i.e. the number of times the primary packaging (i) is used for the same purpose through a return or refill system ($r_i = 1$, if the packaging is not re-used for the same purpose. If the packaging is re-used, r_i is set to 1 unless the applicant can document a higher number.

Assessment and verification: the applicant shall provide a calculation of the WUR of the product to the competent body, together with a declaration of compliance with each part of this criterion. For criterion (c) the applicant shall provide completed and signed declaration of compliance.

recycled material in the packaging.

- For paper and cardboard, packaging is regarded as recycled if the raw material used to make the packaging has been collected from packaging manufacturers at the distribution stage or at the consumer stage. Where the raw material is industrial waste from the material manufacturer's own production process, then the material will not be regarded as recycled.

- For plastic, packaging is regarded as recycled if the raw material used to make the packaging comes from industrial waste or has been collected from packaging manufacturer at the distribution or at the consumer stage.

The applicant shall provide a completed and signed declaration for the content of sustainably sourced material in the packaging. For paper and cardboard, the applicant shall provide TBD. For plastic, the applicant shall provide TBD.

The WUR is calculated as follows:

$$WUR = \sum ((W_i + U_i) / (D_i * R_i))$$

Where:

W_i : weight (g) of the primary packaging (i),

U_i : weight (g) of non-recycled and non-sustainably sourced packaging in the primary packaging (i). $U_i = W_i$ unless the applicant can document otherwise,

D_i : number of reference doses contained in the primary packaging (i),

R_i : number of times that the primary packaging (i) can be refilled and used for the same purpose. $R_i = 1$ (packaging is not reused for the same purpose) unless the applicant can document a higher number.

b) Design for recycling

Plastic packaging shall be designed to facilitate effective recycling by avoiding potential contaminants and incompatible materials that are known to impede separation or reprocessing or to reduce the quality of recyclate. The label or sleeve, closure and, where applicable, barrier coatings shall not comprise, either singularly or in combination the materials and components listed in Table 42. Pumps are exempted from this requirement.

Table 42: Materials and components excluded from packaging elements	
Packaging element	Excluded materials and components⁶⁸
Label or sleeve	<ul style="list-style-type: none"> - PS label or sleeve in combination material used with a PET, PP or HDPE bottle - PVC label or sleeve in combination with a PET, PP or HDPE bottle - PETG label or sleeve in combination with a PET bottle - Sleeves made of different polymer than the bottle - Labels or sleeves that are metallised or are welded to a packaging body (in mould labelling)
Closure	<ul style="list-style-type: none"> PS closure in combination a with a PET, HDPE or PP bottle PVC closure in combination with a PET, PP or HDPE bottle PETG closures and/or closure material with density of above 1 g/cm³ in combination with a PET bottle Closures made of metal, glass, EVA Closures made of silicone. Exempted are silicone closures with a density < 1 g/cm³ in combination with a PET bottle and silicone closures with a density > 1g/cm³ in combination with PEHD or PP bottle Metallic foils or seals which remain fixed to the bottle or its closure after the product has been opened
Barrier coatings	polyamide, EVOH, functional polyolefins, metallised and light blocking barriers
<p>Assessment and verification: The applicant shall submit a signed declaration of compliance specifying the material composition of the packaging including the container, label or sleeve, adhesives, closure and barrier coating, and a sample of primary packaging.</p>	
<p>No changes are proposed to the WUR limits but more materials are proposed to be taken into account when calculating WUR in order to promote the use of sustainably sourced raw materials and recycled materials.</p> <p>The recyclability of packaging is proposed to be promoted through the requirement on "design for recycling".</p>	

⁶⁸ EVA – Ethylene Vinyl Acetate, EVOH – Ethylene vinyl alcohol, HDPE – High-density polyethylene, PET – Polyethylene terephthalate, PETG – Polyethylene terephthalate glycol-modified, PP – Polypropylene, PS – Polystyrene, PVC – Polyvinylchloride

Criterion 7- Fitness for use

The product shall be fit for use, meeting the needs of the consumers.

The cleaning ability and cleaning capacity must be equivalent to or better than that of the generic reference detergent specified below.

Assessment and verification: the cleaning ability and cleaning capacity must be tested by means of an adequate and justifiable laboratory performance test carried out and reported within specified parameters as stated in the framework described in 'Framework for testing the performance of hand dishwashing detergents' that can be found here:

http://ec.europa.eu/environment/ecolabel/ecolabelled_products/categories/hand_dishwashing_detergents_en.htm

The generic reference detergent shall be the one prescribed in IKW performance test 'Recommendation for the quality assessment of the cleaning performance of hand dishwashing detergents' (SÖFW-Journal, 128, 5, pp. 11-15, 2002) with the adaptation that the dosage applied in the performance test is set at 2,5 millilitres of the reference detergent per 5 litres of water.

The IKW performance test 'Recommendation for the quality assessment of the cleaning performance of hand dishwashing detergents' (SÖFW-Journal, 128, 5, pp. 11-15, 2002) method may be applied with the mentioned adaptation and can be downloaded from: http://www.ikw.org/pdf/broschueren/EQ_Handgeschirr_e.pdf

Tests shall be carried out to ensure that the product has a satisfactory wash performance at the lowest recommended dosage for the water hardness under 'Framework for testing the performance of hand dishwashing detergents' available at: http://ec.europa.eu/environment/ecolabel/documents/performance_test.pdf

The test shall be performed by a laboratory complying with Appendix 2.

The reference product is tested at the lowest recommended dosage that is stated on the packaging. If no dosage instructions are provided, the same dosage is used as for the test product.

The product shall be tested against another consumer product. If the product is marketed for both professional and consumer use it shall be tested against a professional product

Alternatively, the IKW performance test 'Recommendation for the quality assessment of the cleaning performance of hand dishwashing detergents' method may be applied with the adaptation that the dosage applied in the performance test is set at 2,5 millilitres of the reference detergent per 5 litres of water. It and can be downloaded from: http://ec.europa.eu/environment/ecolabel/documents/performance_test.pdf

Assessment and verification: The applicant shall provide documentation confirming that the product has been tested under the standard/protocol conditions.

If a laboratory test is performed, information should be provided on:

(a) Type of spots that are representative for the kind of soiled expected in the areas where the products will be marketed.

(b) Information on the recommended dosage at the corresponding water hardness and the lowest recommended wash temperature at which the product claims to be effective

(c) The product's ability to remove soiling from the surfaces or materials

(d) Information about the reference product against which the test product has been tested: market leadership, lowest commended dosage or dosage used (if no information is provided) and temperature, date of purchase and date of testing.

(e) Documentation confirming the compliance within the laboratory requirements included in Appendix (to be added)

If a user test is performed, information should be provided on:

a) the way the test users were selected, all raw data from the tests and the test procedure

(b) all reply forms received from the test users and the overall result on the wash performance of the user test specified in a table/a form. The response must be rated in accordance with Appendix (to be added)

	(c) information on how satisfied the test center is with visit reporting arrangements and the categories rated.
	In the current revision, no significant changes are proposed to this criterion. The wording is proposed to be changed to be more aligned with the EU Ecolabels in the detergents group.
Criterion 8 – User information	
<p>The product shall bear the following information on the packaging:</p> <p>(a) ‘Do not use running water but immerse the dishes, and use the recommended dosage’ (or equivalent text);</p> <p>(b) Information on the recommended dosage shall appear on the packaging in a reasonably sufficient size and against a visible background. The information shall be provided in millilitres (and tea spoons) of product for 5 litres of dishwashing water suitable for ‘dirty’ and ‘less dirty’ dishes;</p> <p>(c) an indication of the approximate number of washes that the consumer can perform with one bottle is recommended but voluntary.</p> <p>This is calculated by dividing the volume of the product by the dosage required for 5 litres of dishwashing water for dirty dishes.</p> <p>Assessment and verification: the applicant shall provide a sample of the product packaging, including the label to the competent body, together with a declaration of compliance with each part of this criterion.</p>	<p>The detergent shall be accompanied by instructions for proper use so as to maximise product performance and minimise waste. These instructions shall be legible or include graphical representation or icons and include information on:</p> <p>a) dosing instructions</p> <p>The primary packaging shall include information on the recommended dosage and dilution instructions:</p> <ul style="list-style-type: none"> - for non-professional products: in ml per 5l dishwashing water - for professional products: in ml per liter of dishwashing water <p>A second well-known metric, such as tea spoons, shall be given in brackets. If the packing has an efficient and convenient dosage system, this dosage (i.e. capfuls, squirts, or other) can be used as the alternative metric.</p> <p>If needed, information on water hardness or where this information can be found out shall be included.</p> <p>b) resource saving measures</p> <p>The text "do not use running water but immerse the dishes" and "wash at the lowest suitable temperature" or equivalent shall be included on the primary packaging.</p> <p>c) dose number (voluntary)</p> <p>An indication of the approximate number of washes that the consumer can perform with one bottle is recommended but voluntary. This is calculated by dividing the volume of the product by the dosage required for 5 litres of dishwashing water for normally soiled dishes.</p> <p>d) packaging disposal information</p> <p>The primary packaging shall include information on the reuse, recycling and/or correct disposal of packaging.</p> <p>e) environmental information (voluntary)</p> <p>The following text is recommended to appear on the primary packaging but its use is voluntary:</p> <p>"All detergents have an effect on the environment. Always use the correct dose for maximum effectiveness, the lowest recommended temperature. This will minimize both energy and water consumption and reduce water pollution".</p>

	Assessment and verification: The applicant shall provide a sample of the product packaging, including the label.
	The proposed changes include clarified indications on the dosage, as well as proposals for indications related to packaging and other environmental information.
Criterion 9 – Information appearing on the EU Ecolabel	
<p>Optional label with text box shall contain the following text: ‘— reduced impact on aquatic life, — reduced use of hazardous substances, — reduced packaging waste, — clear user instructions.’</p> <p>The guidelines for the use of the optional label with text box can be found in the ‘Guidelines for the use of the EU Ecolabel logo’ on the website: http://ec.europa.eu/environment/ecolabel/promo/logos_en.htm</p> <p>Assessment and verification: the applicant shall provide a sample of the label, together with a declaration of compliance with this criterion.</p>	<p>The logo should be visible and legible. The use of the EU Ecolabel logo is protected in primary EU law. The EU Ecolabel registration/licence number must appear on the product, it must be legible and clearly visible.</p> <p>The optional label with text box shall contain the following text:</p> <ul style="list-style-type: none"> • reduced impact on aquatic ecosystems • limited hazardous substances • performance tested <p>Assessment and verification: The applicant shall provide a sample of the product packaging, including the label.</p>
	The proposed change aims at bringing the wording in line with other EU Ecolabel detergents and the information that the EU logo claims.
Criterion NEW – Sustainable sourcing of palm oil, palm kernel oil and their derivatives	
	<p>Ingredients used in the product which are derived from palm oil or palm kernel oil must be sourced from plantations that meet the criteria for sustainable management that have been developed by multi-stakeholder organisations who have a broad based membership including NGOs, industry and government.</p> <p>Assessment and verification: the applicant shall provide third-party certifications that the palm oil used in the manufacturing of the product originates from sustainable managed plantations. Certifications accepted shall include RSPO (by identified preserved, segregates or mass balance) or any equivalent scheme based on multi-stakeholder sustainable management criteria. For chemical derivatives of palm oil it is acceptable to demonstrate sustainability for these through book and claim systems such as GreenPalm or equivalent.</p>

6.7 Revision of main decision text

6.7.1 Name, definition and scope for EU Ecolabel

Current definition and scope

The product group 'Hand dishwashing detergents' shall comprise all detergents intended to be used to wash by hand dishes, crockery, cutlery, pots, pans, kitchen utensils and so on.

The product group shall cover products for both private and professional use. The products shall be a mixture of chemical substances and must not contain microorganisms that have been deliberately added by the manufacturer.

Proposal for new definition and scope

The product group 'Hand dishwashing detergents' shall comprise all detergents intended to be used to wash by hand [glassware, crockery and kitchen utensils including cutlery, pots, pans and overware](#).

The product group shall cover products for both private and professional use. The products shall be a mixture of chemical substances and must not contain micro-organisms that have been deliberately added by the manufacturer.

Rationale and discussion

The **name** of the EU Ecolabel is proposed to remain unchanged.

The **scope** of the EU Ecolabel is proposed to remain unchanged as the market analysis⁶⁹ showed that all relevant products are covered and stakeholder consultation and review of other ecolabels and voluntary agreements did not raise any issues related to scope

The **definition** of the product group is proposed to be slightly altered in order to facilitate comprehension of what is in the scope. Glassware and overware are now explicitly mentioned and the phrase "and so on" has been removed added vagueness to the definition.

This revision work has not studied in detail the impact that micro-organisms have on the cleaning properties of products and as well as impacts on the environment. This work will be carried out following the 1st AHWG meeting.

Proposal for new definition and scope (option 2)

The product group 'Hand dishwashing detergents' shall comprise all detergents intended to be used to wash by hand [glassware, crockery and kitchen utensils including cutlery, pots, pans and overware](#).

The product group shall cover products for both private and professional use. The products shall be a mixture of chemical substances ~~and must not contain micro-organisms that have been deliberately added by the manufacturer.~~

A second version of the definition and scope text is proposed above and allows hand dishwashing detergents containing micro-organisms to seek an EU Ecolabel. This change has been asked by stakeholders but an evaluation of the role and the impact that micro-organisms can have on the performance, both in terms of washing and environmental impacts, has not yet been carried out as part of this revision. This work will be carried out following the 1st AHWG meeting.

⁶⁹ Task 3 of the Preliminary report for the revision of European Ecological Criteria for Hand Dishwashing Detergents, available at: <http://susproc.jrc.ec.europa.eu/detergents/index.html>

Consultation questions

1	Should the product scope exclude products with disinfecting properties?
2	Do you agree with the proposed change of the wording?
3	Should micro-organisms be considered for inclusion in the EU Ecolabel? Background information on the subject is sought from stakeholders.

6.7.2 Definitions

Current definition text

For the purpose of this Decision, the following definitions shall apply:

1. 'substance' means a chemical element and its compounds in the natural state or obtained by any production process, including any additive necessary to preserve the stability of the product and any impurity deriving from the process used but excluding any solvent, which may be separated without affecting the stability of the substance or changing its composition;
2. 'product' (or 'mixture') means a mixture or solution of two or more substances, which do not react.

Proposal for definitions text

(1) "ingoing substances and mixtures" means

- biocides, fragrances, colouring agents, and mixtures thereof, regardless of concentration in the final formulation,
- substances and mixtures intentionally added, by-products and impurities from raw materials, the concentration of which equals or exceeds 0,010% by weight of final formulation;

(2) "primary packaging" means packaging conceived so as to constitute the smallest sales unit of distribution to the final user or consumer at the point of purchase in direct contact with the content.

Rationale and discussion

For further information on the update of definitions listed, refer to the Technical Annex (Section 7.4).

The definition for "substance" is proposed to be replaced with "ingoing substances and mixtures", which also provides information on the measurement thresholds for the different types of substances and mixtures covered. The definition of "product" is proposed to be removed as it overlaps with the definition of "detergent" as found in the Detergents Regulation⁷⁰.

⁷⁰ EC Regulation 648/2004 of The European Parliament and of The Council of 31 March 2004 on detergents. Available from: http://ec.europa.eu/enterprise/sectors/chemicals/documents/specific-chemicals/detergents/index_en.htm

6.8 Technical Report / Criteria Proposals

6.8.1 Assessment and verification requirements and measurement thresholds

Current assessment and verification requirements and measurement thresholds

(a) Requirements

The specific assessment and verification requirements are indicated within each criterion.

Where the applicant is required to provide declarations, documentation, analyses test reports, or other evidence to show compliance with the criteria, it is understood that these may originate from the applicant and/or his supplier(s) and/or their supplier(s), etc as appropriate.

Where possible, the testing should be performed by laboratories that meet the general requirements of EN ISO 17025 or equivalent.

Where appropriate, test methods other than those indicated for each criterion may be used if the competent body assessing the application accepts their equivalence.

Appendix I makes reference to the Detergents Ingredients Database (DID) list which contains the most widely used ingredients used in detergent formulations. It shall be used for deriving the data for the calculations of the Critical Dilution Volume (CDV) and for the assessment of the biodegradability of the ingredients. For substances not present on the DID list, guidance is given on how to calculate or extrapolate the relevant data. The latest version of the DID list is available from the EU Ecolabel website or via the websites of the individual competent bodies.

Where appropriate, competent bodies may require supporting documentation and may carry out independent verifications.

(b) Measurement thresholds

All substances in the product, including additives (e.g. preservatives or stabilisers) in the ingredients, of which the concentration exceeds 0,010 % by weight of the final formulation shall comply with the EU Ecolabel criteria except for criterion 1, where each intentionally added substance should be included, irrespective of its weight. Impurities resulting from the production of the ingredients which are present in concentrations > 0,010 % by weight of the final formulation shall also comply with the criteria.

Proposal for assessment and verification requirements and measurement thresholds

Requirements

The specific assessment and verification requirements are indicated for each criterion.

Where the applicant is required to provide declarations, documentation, analyses, test reports, or other evidence to show compliance with the criteria, these may originate from the applicant or his supplier(s) or both.

Where possible, the testing shall be performed by laboratories that meet the general requirements of European Standard EN ISO 17025 or equivalent.

Where appropriate, test methods other than those indicated for each criterion may be used if the competent body assessing the application accepts their equivalence.

Where appropriate, competent bodies may require supporting documentation and may carry out independent verifications.

The Appendix makes reference to the "Detergent Ingredient Database" list (DID list) which contains the most widely used ingredients in detergents and cosmetics formulations. It shall be used for deriving the data for the calculations of the Critical Dilution Volume (CDV) and for the assessment of the biodegradability of the ingoing substances and mixtures. For substances or mixtures not present on the DID list, guidance is given on how to calculate or extrapolate the relevant data. The latest version of the DID list is available from the EU Ecolabel website or via the websites of the individual competent bodies.

The following information shall be provided to the competent body:

(i) [The full formulation of the product indicating trade name, chemical name, CAS no. and INCI designations, DID no.2, the ingoing quantity including and excluding water, the function and the form of](#)

all ingoing substances and mixtures regardless of concentration;
(ii) safety data sheets for each ingoing substance or mixture in accordance with Regulation (EC) No 1907/2006 of the European Parliament and of the Council.

Measurement thresholds

Compliance with the ecological criteria is required for all ingoing substances and mixtures, with the exception of compliance with criterion 3*(b) and 3*(c) for preservatives, colorants and fragrances which is requested when their concentration equals or exceeds 0,010% by weight in the final formulation.

*number of criterion to be changed based on the final structure of the criteria

Rationale and discussion

a) Requirements

The text regarding the assessment and verification requirements is proposed to be aligned with the text from the EU Ecolabel on Rinse-off Cosmetics. One of the most significant changes proposed is the addition of the text that clarifies what is to be provided to the CB – it is not present in the current criteria.

b) Measurement thresholds

The measurement threshold is the concentration of ingredients in the product for which there is a requirement for documentation of compliance with the ecological criteria. It is proposed to harmonise the measurement thresholds for all the EU Ecolabels in the detergents group and the EU Ecolabel for rinse-off cosmetics. *The new text and thresholds are discussed in the Technical Annexe (Section 7.5).*

In the specific case of the EU Ecolabel for hand dishwashing detergents, the new text partially changes the thresholds for additives (e.g. biocides, fragrances and colouring agents). Namely in the current text, additives were only to be considered if their concentration in the final formulation was equal or above 0,01% except in the criterion on toxicity to aquatic organisms where all additives were to be considered, regardless of concentration. The new text states that additives are only to be considered if their concentration in the final formulation is equal or above 0,01% for criteria 3(b) and 3(c) related to hazardous substances, for all other criteria all additives should be considered, regardless of their concentration. When considering the different criteria in the EU Ecolabel, the only one that is affected by the change is that related to biodegradability.

6.8.2 Reference dosage

Current requirements for reference dosage

For hand dishwashing detergents, the dosage in grams of the product recommended by the manufacturer for preparing 1 litre of dishwashing water for cleaning of normally soiled dishes is taken as the reference dosage for the calculations aiming at documenting compliance with the EU Ecolabel criteria and for testing of cleaning ability.

Proposal for reference dosage

The following dosages are taken as the reference dosage for the calculations aiming at documenting compliance with the EU Ecolabel criteria and for testing of fitness for use:

Dosage recommended by the manufacturer for one litre of washing water for cleaning normally soiled dishes (indicated in g/l washing water or ml/l washing water).

Rationale and discussion

A reference dosage is the quantity of product used when calculating compliance with ecological requirements such as biodegradability and CDV. *Further information on functional units and reference dosage in EU Ecolabels related to detergents can be found in the Technical Annexe (Section 7.6).*

No changes are proposed to the reference dosage itself; it is only proposed to change the wording to be in line with the other EU Ecolabels related to detergents.

6.8.3 Criterion 1: Toxicity to aquatic organisms

Current criterion 1

The CDV_{chronic} shall be calculated on the basis of the dosage in grams of the product recommended by the manufacturer for preparing 1 litre of dishwashing water for cleaning of normally soiled dishes. The CDV_{chronic} of the recommended dose expressed for 1 litre of dishwashing water shall not exceed 3,800 litres.

Assessment and verification: the exact formulation of the product shall be provided to the competent body, together with the details of the CDV_{chronic} calculations showing compliance with this criterion.

Proposal for criterion 1

The critical dilution volume (CDV) of the product must not exceed the following limits for [the reference dosage](#):

Product type	Limit CDV
Hand dishwashing detergents	2 700

Assessment and verification: Calculation of the CDV of the product. A spreadsheet for calculation of the CDV value is available on the EU Ecolabel website.

The Critical Dilution Volume (CDV) is calculated for all ingoing substances and mixtures (i) in the product using the following equation:

$$CDV = \sum CDV(i) = 1000 \cdot \sum dosage(i) \cdot \frac{DF(i)}{TF(i)}$$

Where:

$dosage(i)$: weight (g) of the substance or mixture i in the reference dose,

$DF(i)$: degradation factor for the substance or mixture i

$TF(i)$: toxicity factor for the substance or mixture i

The values of $DF(i)$ and $TF(i)$ shall be as given in the DID list Part A (Appendix I). If a substance or mixture is not included in the DID list Part A, the applicant shall estimate the values follow the approach described in the DID list Part B (Appendix I).

Rationale and discussion

Detergents have great potential to cause disturbances in aquatic ecosystems as they cause chemical emissions to water during their entire life cycle. For this reason, EU Ecolabels limit the amount of emissions due to EU Ecolabel products. Critical Dilution Volume (CDV) is used in the current EU Ecolabels related to detergents to assess toxicity to aquatic organisms. It is proposed to keep this assessment method in this revision. *Further description of CDV and discussion of other assessment methods can be found in the Technical Annexe (Section 7.8.1).*

In order to revise the CDV limits for the different products covered by this EU Ecolabel for hand dishwashing detergents, stakeholders (including competent bodies) were contacted and asked to provide information on CDV values of products on the market. A total of 58 CDV values for products in this category have been received, all concerning products that have applied to be awarded the EU Ecolabel for hand dishwashing detergents or other similar ecolabels, Table 43 (data presented in Appendix 1 of this document). Two were labelled as "concentrated" so they were separated from the "traditional" hand dishwashing detergents to see if a trend could be observed but the data set is too small to have any significance.

Table 43: CDV ranges identified for traditional and concentrated hand dishwashing detergents (rounded to the closest 100)

	No.	CDV			Current Limit	Proposed Limit
		Min	Max	Average		
Traditional	56	500	3 900	2 400	3 800	2 700
Concentrated	2	2 100	2 100	2 100	3 800	2 700

The average CDV value for hand dishwashing detergents are much lower than the current limit of 3 800 but the distribution of values is also very large in the sample size with eight products being about 100-200 from the limit. Nevertheless, it is proposed to lower the CDV limit by 30% down to 2 700 as there are many products on the market that can comply with such a requirement. During the last revision in 2011⁷¹, a CDV limit of 2 650 litres was already suggested by some stakeholders as it was stated that at this limit 47% of products on the European market would pass.

Consultation questions	
1	Is the stricter CDV limit appropriate?

⁷¹ Ecolabel Board Meeting in February 2011 – EEB and BEUC position on all-purpose cleaners and hand dishwashing detergents, Brussels, 1 February 2011.

6.8.4 Criterion 2: Biodegradability of surfactants

Current criterion 2

(a) Ready biodegradability (aerobic)

Each surfactant used in the product shall be readily biodegradable.

Assessment and verification: the exact formulation of the product as well as a description of the function of each substance shall be provided to the competent body. The DID list part A (Appendix I) indicates whether a specific surfactant is aerobically biodegradable or not (the surfactants with an entry of 'R' in the column on aerobic biodegradability are readily biodegradable). For surfactants which are not included in the DID list part A, the relevant information from literature or other sources, or appropriate test results, showing that they are aerobically biodegradable shall be provided. The tests for ready biodegradability shall be as referred to in Regulation (EC) No 648/2004 of the European Parliament and of the Council of 31 March 2004 on detergents (1). Surfactants shall be considered as readily biodegradable if the level of biodegradability (mineralisation) measured in accordance with one of the five following tests is at least 60 % within 28 days: CO₂ headspace test (OECD 310), carbon dioxide (CO₂) Evolution Modified Sturm test (OECD 301B; Council Regulation (EC) No 440/2008 (2) method C.4-C), Closed Bottle test (OECD 301D; Regulation (EC) No 440/2008 method C.4-E), Manometric Respirometry (OECD 301F; Regulation (EC) No 440/2008 method C.4-D), or MITI (I) test (OECD 301C; Regulation (EC) No 440/2008 method C.4-F), or their equivalent ISO tests. Depending on the physical characteristics of the surfactant, one of the following tests might be used to confirm ready biodegradability, if the level of biodegradability is at least 70 % within 28 days: Dissolved Organic Carbon DOC Die-Away (OECD 301A; Regulation (EC) No 440/2008 method C.4-A) or Modified OECD Screening DOC Die-Away (OECD 301E; Regulation (EC) No 440/2008 method C.4-B), or their equivalent ISO tests. The applicability of test methods based on measurement of dissolved organic carbon needs to be appropriately justified as these methods could give results on the removal and not on the biodegradability. Pre-adaptation is not to be used in tests for aerobic ready biodegradability. The 10 days window principle shall not apply.

(b) Anaerobic biodegradability

Surfactants that are not biodegradable under anaerobic conditions may be used in the product provided that the surfactants are not classified with H400/R50 (Very toxic to aquatic life) within the limit specified below.

The total weight of such anaerobically non-biodegradable surfactants must not exceed 0.10 gram of the recommended dose expressed for 1 litre of dishwashing water.

Assessment and verification: the exact formulation of the product as well as a description of the function of each substance shall be provided to the competent body. The DID list part A (Appendix I) indicates whether a specific surfactant is anaerobically biodegradable or not (the surfactants with an entry of 'Y' in the column on anaerobic biodegradability are biodegradable under anaerobic conditions). For surfactants which are not included in the DID list (OJ L 115, 4.5.2005, p. 18 part A), the relevant information from literature or other sources, or appropriate test results, showing that they are anaerobically biodegradable shall be provided. The reference test for anaerobic degradability shall be OECD 311, ISO 11734, ECETOC No 28 (June 1988) or an equivalent test method, with the requirement of a minimum of 60 % ultimate degradability under anaerobic conditions. Test methods simulating the conditions in a relevant anaerobic environment may also be used to document that 60 % ultimate degradability has been attained under anaerobic conditions (see Appendix II).

Proposal for criterion 2

a) Biodegradability of surfactants

To be discussed at the 1st AHWG meeting.

All surfactants shall be biodegradable under aerobic conditions.

All surfactants shall be biodegradable under anaerobic conditions.

b) Biodegradability of organic substances and mixtures

To be discussed at the 1st AHWG meeting.

The content of organic substances and mixtures in the product that are aerobically non-biodegradable (not readily biodegradable aNBO) or anaerobically non-biodegradable (anNBO) shall not exceed the following limits for the reference dosage:

Product type	aNBO	anNBO
Hand dishwashing detergents	x,xx g	x,xx g

Assessment and verification: The applicant shall provide documentation for the degradability of surfactants, as well as the calculations of aNBO and anNBO for the product. A spreadsheet for use in calculating aNBO and anNBO values is available on the EU Ecolabel website.

For both surfactants and aNBO and anNBO values, reference shall be made to the DID List. For ingredients which are not included in the DID List, the relevant information from literature or other sources, or appropriate test results, showing that they are aerobically and anaerobically biodegradable shall be provided as described in Appendix I.

In the absence of documentation in accordance with the above requirements, an ingoing substances and mixtures other than a surfactant may be exempted from the requirement for anaerobic degradability if one of the following three alternatives is fulfilled:

1. Readily degradable and has low adsorption ($A < 25\%$);
2. Readily degradable and has high desorption ($D > 75\%$);
3. Readily degradable and non-bioaccumulating.

Testing for adsorption/desorption may be conducted in accordance with OECD guidelines 106.

Rationale and discussion

In the current EU Ecolabel criteria for hand dishwashing detergents only the biodegradability of surfactants is considered. Nevertheless, cleaning products contain other substances that are not readily biodegradable (aerobically, aNBO), including phosphonates, EDTA, fragrances, polymers, colouring agents and thickening agents. They also contain substances that are not anaerobically degradable (anNBO), including sulphonated anionic surfactants, phosphonates, fragrances and colouring agents.

As explained in the Technical Annex (Section 7.9.1), the use of non-biodegradable (aNBO, anNBO) ingredients should be limited as substances which do not degrade rapidly in the environment have the potential to exert toxicity. A limitation (i.e. having maximum concentrations) allows for flexibility with formulations whilst reducing the risk to the environment.

As six EU Ecolabels related to detergents are being revised at the same time and as these products often have similar formulations, it is judicious to consider the harmonisation of their criteria. In the case of biodegradability, the current six EU Ecolabel criteria approach the subject using three different approaches and stakeholder consultation has yielded a multitude opinions. It has thus been decided that a discussion during the 1st AHWG meeting will be conducted. As a starting point for the harmonised approach the criterion included in the most recently voted criteria for industrial and institutional products (laundry and dishwasher detergents) is proposed. It requires aerobic and anaerobic degradability of surfactants and limits the amount of non-aerobically and non-anaerobically degradable organics. Specific issues related to single product groups should be then taken into account (for instance in the case of IILD only non-ionic and cationic surfactants have to be

anaerobically degradable, while anionic surfactants were exempted from this requirement). At present the values for aNBO and anNBO of the products are collected. This exercise will help evaluating validity of the current thresholds. The criterion on biodegradability will be revised following discussions with stakeholders.

Consultation questions	
1	Is the proposed approach suitable for HDD?
2	What would be the appropriate limits for aNBO and anNBO? Could stakeholders please share with the project team data on the amount of aNBO and anNBO organic substances and mixtures in the product groups covered?

6.8.5 Criterion 3: Excluded or limited substances and mixtures

Current criterion 3a

a) Specified excluded substances

The following substances shall not be included in the product, either as part of the formulation or as part of any mixture included in the formulation:

- alkylphenol ethoxylates (APEOs) and derivatives thereof
- EDTA (ethylene-diamine-tetra-acetic acid) and its salts
- 5-bromo-5-nitro-1,3-dioxane
- 2-bromo-2-nitropropane-1,3-diol
- diazolinidylurea
- formaldehyde
- sodium hydroxymethylglycinate
- nitro-musks and polycyclic musks, including for example:
 - Musk xylene: 5-tert-butyl-2,4,6-trinitro-m-xylene
 - Musk ambrette: 4-tert-butyl-3-methoxy-2,6-dinitrotoluene
 - Moskene: 1,1,3,3,5-pentamethyl-4,6-dinitroindan
 - Musk tibetine: 1-tert-butyl-3,4,5-trimethyl-2,6-dinitrobenzene
 - Musk ketone: 4'-tert-butyl-2',6'-dimethyl-3',5'-dinitroacetaphenone
 - HHCB (1,3,4,6,7,8-hexahydro-4,6,6,7,8-hexamethylcyclopenta(g)-2-benzopyran)
 - AHTN (6-acetyl-1,1,2,4,4,7-hexamethyltetralin).

Assessment and verification: the applicant shall provide a declaration supported by declarations from manufacturers, as appropriate, confirming that the listed substances have not been included in the product.

b) Quaternary ammonium salts that are not readily biodegradable shall not be used, either as part of the formulation or as part of any mixture included in the formulation.

Assessment and verification: the applicant shall provide documentation showing the biodegradability of any quaternary ammonium salt used.

Proposal for sub-criterion 3a – "Specified excluded ingoing substances and mixtures"

The product shall not be formulated or manufactured using any of the following compounds:

- (i) APEO (alkylphenol ethoxylates) and APD (alkylphenol derivatives)
- (ii) EDTA (ethylenediaminetetraacetate)
- (iii) 5-bromo-5-nitro-1,3-dioxane
- (iv) 2-bromo-2-nitropropane-1,3-diol
- (v) Diazolinidylurea
- (vi) Formaldehyde
- (vii) Sodium hydroxymethylglycinate
- (viii) Nitro-musks and polycyclic musks
- (ix) Hydroxyisohexyl 3-cyclohexene carboxaldehyde (HICC)
- (x) Atranol and Chloroatranol
- (xi) Fragrance substances subject to the declaration requirement provided for in Regulation (EC) No 648/2004 of the European Parliament and of the Council on detergents (Annex VII) and which are not already excluded by criterion 2b and (other) fragrance substances classified H317/R43 (May cause allergic skin reaction) and/or H334/R42 (May cause allergy or asthma symptoms or breathing difficulties if inhaled) shall not be present in quantities $\geq 0,010\%$ (≥ 100 ppm) per substance.
- (xii) Quaternary ammonium salts that are not readily biodegradable

Assessment and verification: the applicant shall provide a signed declaration of compliance supported by declarations from manufacturers of mixtures, as appropriate, confirming that the listed substances and/or mixtures have not been included in the product.

The applicant shall provide documentation showing the biodegradability of any quaternary ammonium salt used.

The applicant shall also provide a declaration from the fragrance manufacturer specifying the content of each of the substances in the fragrances which are listed in Annex III of the Regulation (EC) No 1223/2009.

Rationale and discussion

Limiting environmentally harmful substances from products covered by the scope of the EU Ecolabel for hand dishwashing detergents is important, as most of the ingredients making up these products end up in the aquatic environment after use, ideally after going through wastewater treatment systems but sometimes also directly after use.

The requirement (a) *Specified excluded ingoing substances and mixtures* lists substances of concern, which have strong negative properties and cause significant impacts and are should not be present in EU Ecolabel products. Among them, they might also be substances that are classified or excluded above the concentration of 0,01% by sub-section (b) *Hazardous substances and mixtures* of this criterion. Nevertheless, due to a lack of harmonised classification and their potential hazard, it seems reasonable to cover the most impacting substances under this section and exclude them completely from the EU Ecolabel products. Overlaps in criteria regarding substances will be tackled in later stages of the EU Ecolabel revision process.

The information and grounds that lead to the exclusion of the following substances and substance groups are summarized in the Technical Annexe (Section 7.10.1).

At present the following substances are proposed to be added to the excluded substances list based on initial feedback and information collected:

- The following fragrances and ingredients of the fragrance mixtures: Hydroxyisohexyl 3-cyclohexene carboxaldehyde (HICC), Atranol and Chloroatranol,

Additionally, in line with other detergent product criteria revisions, it is proposed to remove the exemplification of musks. A list can be included into use manual, if considered helpful by the CBs and applicants.

Consultation questions

1	Are exclusions required for other substances?
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Current criterion 3c

(c) Hazardous substances and mixtures

According to the Article 6(6) of Regulation (EC) No 66/2010, the product or any part of it shall not contain substances (in any forms, including nanoforms) meeting criteria for classification with the hazard statements or risk phrases specified below in accordance with Regulation (EC) No 1272/2008 of the European Parliament and of the Council (1) or Council Directive 67/548/EEC (2) nor shall it contain substances referred to in Article 57 of Regulation (EC) No 1907/2006 of the European Parliament and of the Council (3). The risk phrases below generally refer to substances. However, for mixtures of enzymes and fragrances, where information on substances cannot be obtained, the classification rules for mixtures shall be applied.

List of hazard statements:

GHS Hazard Statement	EU Risk Phrase
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H300 Fatal if swallowed	R28
H301 Toxic if swallowed	R25
H304 May be fatal if swallowed and enters airways	R65
H310 Fatal in contact with skin	R27
H311 Toxic in contact with skin	R24
H330 Fatal if inhaled	R23/26
H331 Toxic if inhaled	R23
H340 May cause genetic defects	R46
H341 Suspected of causing genetic defects	R68
H350 May cause cancer	R45
H350i May cause cancer by inhalation	R49
H351 Suspected of causing cancer	R40
H360F May damage fertility	R60
H360D May damage the unborn child	R61
H360FD May damage fertility. May damage the unborn child	R60-61
H360Fd May damage fertility. Suspected of damaging the unborn child	R60-63
H360Df May damage the unborn child. Suspected of damaging fertility	R61-62
H361f Suspected of damaging fertility	R62
H361d Suspected of damaging the unborn child	R63
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.	R62-63
H362 May cause harm to breast fed children	R64
H370 Causes damage to organs	R39/23; R39/24; R39/25; R39/26; R39/27; R39/28
H371 May cause damage to organs	R68/20; R68/21; R68/22
H372 Causes damage to organs through prolonged or repeated exposure	R48/25; R48/24; R48/23
H373 May cause damage to organs through prolonged or repeated exposure	R48/20; R48/21; R48/22
H400 Very toxic to aquatic life	R50
H410 Very toxic to aquatic life with long-lasting effects	R50-53
H411 Toxic to aquatic life with long-lasting effects	R51-53
H412 Harmful to aquatic life with long-lasting effects	R52-53
H413 May cause long-lasting harmful effects to aquatic life	R53
EUH059 Hazardous to the ozone layer	R59
EUH029 Contact with water liberates toxic gas	R29
EUH031 Contact with acids liberates toxic gas	R31
EUH032 Contact with acids liberates very toxic gas	R32
EUH070 Toxic by eye contact	R39-41
Sensitising substances	
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled	R42
H317: May cause allergic skin reaction	R43

Substances or mixtures which change their properties upon processing (e.g. become no longer bioavailable, undergo chemical modification) so that the identified hazard no longer applies are exempted from the above requirement.

Derogations: the following substances or mixtures are specifically exempted from this requirement:

Surfactants in concentrations <25 % in the product (*)	H400 Very toxic to aquatic life	R50
Surfactants in concentrations <25 % in the product(**)	H412 Harmful to aquatic life with long-lasting effects	R52-53
Surfactants in concentrations <25 % in the product(**)	H411 Toxic to aquatic life with long-lasting effects	R51-53
Fragrances	H412 Harmful to aquatic life with long-lasting effects	R52-53
Enzymes (***)	H317: May cause allergic skin reaction H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled	R43 R42

NTA as an impurity in MGDA and GLDA (****)	H351 suspected of causing cancer	R40
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(*) The percentage must be divided by the M-factor established in accordance with the Regulation (EC) No 1272/2008.

(**) This derogation is applicable provided that they are ready degradable and anaerobically degradable.

(***) Including stabilisers and other auxiliary substances in the preparations.

(****) In concentrations lower than 1.0 % in the raw material as long as the total concentration in the final product is lower than 0.10 %.

Assessment and verification: the applicant shall provide the exact formulation of the product to the competent body. The applicant shall demonstrate compliance with this criterion for substances in the product on the basis of information consisting as a minimum of that specified in Annex VII to the Regulation (EC) No 1907/2006. Such information shall be specific to the particular form of the substance, including nanoforms, used in the product. For that purpose, the applicant shall provide a declaration of compliance with this criterion, together with a list of ingredients and related safety data sheets in accordance with Annex II to Regulation (EC) No 1907/2006 for the product as well as for all substances listed in the formulation(s). Concentration limits shall be specified in the safety data sheets in accordance with Article 31 of Regulation (EC) No 1907/2006.

Proposal for criterion 3b – "Hazardous substances and mixtures"																																															
<p>According to Article 6(6) of Regulation (EC) No 66/2010, the EU Ecolabel may not be awarded to any product that contains substances meeting criteria for classification with the hazard statements specified in Table 40 in accordance with Regulation (EC) No 1272/2008 of the European Parliament and of the Council or substances referred to in Article 57 of Regulation (EC) No 1907/2006. The hazard statements in Table 40 generally refer to substances. However, if information on substances cannot be obtained, the classification rules for mixtures apply.</p> <p>Substances or mixtures which change their properties through processing and thus become no longer bioavailable, or undergo chemical modification in a way that removes the previously identified hazard are exempted from criterion X(b)</p> <p>Table 40: Hazard statements</p> <table border="1"> <thead> <tr> <th colspan="2">GHS Hazard Statement</th> </tr> </thead> <tbody> <tr><td>H300</td><td>Fatal if swallowed</td></tr> <tr><td>H301</td><td>Toxic if swallowed</td></tr> <tr><td>H304</td><td>May be fatal if swallowed and enters airways</td></tr> <tr><td>H310</td><td>Fatal in contact with skin</td></tr> <tr><td>H311</td><td>Toxic in contact with skin</td></tr> <tr><td>H330</td><td>Fatal if inhaled</td></tr> <tr><td>H331</td><td>Toxic if inhaled</td></tr> <tr><td>H340</td><td>May cause genetic defects</td></tr> <tr><td>H341</td><td>Suspected of causing genetic defects</td></tr> <tr><td>H350</td><td>May cause cancer</td></tr> <tr><td>H350i</td><td>May cause cancer by inhalation</td></tr> <tr><td>H351</td><td>Suspected of causing cancer</td></tr> <tr><td>H360F</td><td>May damage fertility</td></tr> <tr><td>H360D</td><td>May damage the unborn child</td></tr> <tr><td>H360FD</td><td>May damage fertility. May damage the unborn child</td></tr> <tr><td>H360Fd</td><td>May damage fertility. Suspected of damaging the unborn child</td></tr> <tr><td>H360Df</td><td>May damage the unborn child. Suspected of damaging fertility</td></tr> <tr><td>H361f</td><td>Suspected of damaging fertility</td></tr> <tr><td>H361d</td><td>Suspected of damaging the unborn child</td></tr> <tr><td>H361fd</td><td>Suspected of damaging fertility. Suspected of damaging the unborn child.</td></tr> <tr><td>H362</td><td>May cause harm to breast fed children</td></tr> <tr><td>H370</td><td>Causes damage to organs</td></tr> </tbody> </table>		GHS Hazard Statement		H300	Fatal if swallowed	H301	Toxic if swallowed	H304	May be fatal if swallowed and enters airways	H310	Fatal in contact with skin	H311	Toxic in contact with skin	H330	Fatal if inhaled	H331	Toxic if inhaled	H340	May cause genetic defects	H341	Suspected of causing genetic defects	H350	May cause cancer	H350i	May cause cancer by inhalation	H351	Suspected of causing cancer	H360F	May damage fertility	H360D	May damage the unborn child	H360FD	May damage fertility. May damage the unborn child	H360Fd	May damage fertility. Suspected of damaging the unborn child	H360Df	May damage the unborn child. Suspected of damaging fertility	H361f	Suspected of damaging fertility	H361d	Suspected of damaging the unborn child	H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.	H362	May cause harm to breast fed children	H370	Causes damage to organs
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H371 May cause damage to organs
H372 Causes damage to organs through prolonged or repeated exposure
H373 May cause damage to organs through prolonged or repeated exposure
H400 Very toxic to aquatic life
H410 Very toxic to aquatic life with long-lasting effects
H411 Toxic to aquatic life with long-lasting effects
H412 Harmful to aquatic life with long-lasting effects
H413 May cause long-lasting harmful effects to aquatic life
EUH059 Hazardous to the ozone layer
EUH029 Contact with water liberates toxic gas
EUH031 Contact with acids liberates toxic gas
EUH032 Contact with acids liberates very toxic gas
EUH070 Toxic by eye contact
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
H317: May cause allergic skin reaction

This criterion applies to all ingredients present in concentrations $\geq 0,01$ %, including preservatives, colouring agents and fragrances.

For hand dishwashing products, the substances in Table 41 are exempted from the obligation in Article 6(6) of Regulation (EC) No 66/2010 following application of Article 6(7) of the same Regulation.

Table 41: Derogated substances - To be discussed in the 1st AHWG meeting

Derogated substance	H phrases
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Assessment and verification: the applicant shall demonstrate compliance with criterion X(b) for any ingoing substance or mixture present at concentrations greater than 0,010% in the product.

A declaration of compliance shall be provided by the applicant supported, where appropriate, by the declarations from producer(s) of the raw materials that none of these ingoing substances and/or mixtures meet the criteria for classification with one or more of hazard statements listed in Table 40 in the form(s) and physical state(s) they are present in the product.

The following technical information related to the form(s) and physical state(s) of the ingoing substances and/or mixtures as present in the product shall be provided to support the declaration of non-classification:

(i) For substances that have not been registered under Regulation (EC) No 1907/2006 and/or which do not yet have a harmonised CLP classification: Information meeting the requirements listed in Annex VII to that Regulation;

(ii) For substances that have been registered under Regulation (EC) No 1907/2006 and which do not meet the requirements for CLP classification: Information based on the REACH registration dossier confirming the non-classified status of the substance;

(iii) For substances that have a harmonised classification or are self-classified: safety data sheets where available. If these are not available or the substance is self-classified then information shall be provided relevant to the substances hazard classification according to Annex II to Regulation (EC) No 1907/2006;

(iv) In the case of mixtures: safety data sheets where available. If these are not available then calculation of the mixture classification shall be provided according to the rules under Regulation (EC) No 1272/2008 together with information relevant to the mixtures hazard classification according to Annex II to Regulation (EC) No 1907/2006.

For substances listed in Annexes IV and V to Regulation (EC) No 1907/2006, which are exempted from registration obligations under point (a) and (b) of Article 2(7) of that Regulation, a declaration to this effect by the applicant shall suffice to comply with criterion 3(b).

A declaration on the presence of ingoing substances that fulfil the derogation conditions shall be provided by the applicant, supported, where appropriate, by declarations from the producer(s) of the raw materials. Where required for the derogation, the applicant shall confirm the concentrations of these ingoing substances in the final product.

Rationale and discussion

Background information on the criterion for hazardous substance is given in Technical Annex (Section 7.10.2).

The assessment and verification has been updated to harmonise with recently voted similar product group (ROC).

Current criterion 3d - Substances listed in accordance with Article 59(1) of Regulation (EC) No 1907/2006

No derogation from the exclusion in Article 6(6) of Regulation (EC) No 66/2010 may be given concerning substances identified as substances of very high concern and included in the list foreseen in Article 59 of Regulation (EC) No 1907/2006 present in mixtures in concentrations higher than 0,010 %.

Assessment and verification: the list of substances identified as substances of very high concern and included in the candidate list in accordance with Article 59 of Regulation (EC) No 1907/2006 can be found here: http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp

Reference to the list shall be made on the date of application.

Concentration limits shall be specified in the safety data sheets in accordance with Article 31 of Regulation (EC) No 1907/2006.

Proposal for criterion 3c – "Ingoing substances listed in accordance with Article 59(1) of Regulation (EC) No 1907/2006"

No derogation from the exclusion in Article 6(6) of Regulation (EC) No 66/2010 shall be given concerning ingoing substances identified as substances of very high concern and included in the list provided for in Article 59(1) of Regulation (EC) No 1907/2006⁷², present in the product in concentrations higher than 0.010 % (weight by weight).

Assessment and verification: *reference to the list of substances identified as substances of very high concern shall be made on the date of application. The applicant shall provide the full formulation of the product to the competent body. The applicant shall also provide a declaration of compliance with criterion 3(c), together with related documentation, such as declarations of compliance signed by the material suppliers and copies of relevant safety data sheets for substances or mixtures.*

No content-wise change, just a harmonisation of text is made.

Current criterion 3e - Biocides

(i) The product may only include biocides in order to preserve the product, and in the appropriate dosage for this purpose alone. This does not refer to surfactants, which may also have biocidal properties.

Assessment and verification: the applicant shall provide copies of the material safety data sheets of any preservatives added, together with information on their exact concentration in the product. The manufacturer or supplier of the preservatives shall provide information on the dosage necessary to preserve the product.

(ii) It is prohibited to claim or suggest on the packaging or by any other communication that the product has an antimicrobial action.

Assessment and verification: the applicant shall provide the texts and layouts used on each type of packaging and/or an example of each different type of packaging to the competent body.

(iii) Biocides, either as part of the formulation or as part of any mixture included in the formulation, that are used to preserve the product and that are classified H410/R50-53 or H411/R51-53 in accordance with Directive 67/548/EEC, Directive 1999/45/EC of the European Parliament and of the

⁷²

http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp

Council (1) or Regulation (EC) No 1272/2008, are permitted but only if their bioaccumulation potentials are characterised by log Pow (log octanol/water partition coefficient) < 3.0 or an experimentally determined bioconcentration factor (BCF) ≤ 100.

Assessment and verification: the applicant shall provide copies of the material safety data sheets for all biocides, together with a documentation of the concentrations of the biocides in the final product.

Proposal for criterion 3d – "Preservatives"

(xix) The product may contain preservatives provided that they are not bioaccumulating. A preservative is not considered bioaccumulating if BCF < 100 or logPow < 3,0. If both BCF and log K_{ow} values are available, the highest measured BCF value shall be used.

(xx) Preservatives in the product shall not release or degrade to substances that are classified in accordance with the requirements of criterion 3(b) Hazardous substances and mixtures.

(xxi) It is prohibited to claim or suggest on the packaging or by any other communication that the product has an antimicrobial action.

Assessment and verification: the applicant shall provide a signed declaration of compliance, together with copies of the safety data sheets of any preservative added, and information on its BCF and/or log K_{ow} values. The applicant shall provide also artwork of the packaging.

Rationale and discussion

Biocides are used in detergent products for preservation purposes. They prevent the product from spoiling during storage by preventing the growth of microorganisms. However, the use of biocides in detergent products is a cause for concern as they are highly toxic to aquatic organisms and can also produce hypersensitivity and allergies (for more information see Technical Annexe (Section 7.10.2.2)).

In the current criteria the following changes are proposed:

- The name of sub-criterion is proposed to be changed to 'Preservatives'.
- The statement "Product may only include biocides in order to preserve the product, and in the appropriate dosage for this purpose alone. This does not refer to surfactants, which may also have biocidal properties" has been removed as CBs mentioned in the ROC criteria development process that they cannot verify the compliance with this requirement and it should be removed.
- A requirement for biocides included in the product shall not be bioaccumulating has been added to further harmonise the criteria of the six different detergent and cleaning product groups. Some EU Ecolabel criteria (e.g. for the IILD, IIDD and ROS) as well as Nordic Swan criteria for DD have a requirement that preservatives may only be used if they are not bioaccumulative. The motivation behind this requirement is that substances which bioaccumulate collect in the fat tissues of living organisms and can cause long-lasting damage.
- Finally, in the recent criteria developments it was pointed out that sometimes preservatives may release or degrade to substances that are even more hazardous than the preservatives used. Therefore an additional requirement is proposed for consideration: *Preservatives in the product shall not release or degrade to substances that classified in accordance with the requirements of Criterion 3(b) Hazardous substances and mixtures.*

6.8.6 Criterion 4: Fragrances

Current criterion 4

(a) The product shall not contain perfumes containing nitro-musks or polycyclic musks (as specified in Criterion 3 (a)).

(b) Any substance added to the product as a fragrance must have been manufactured and/or handled in accordance with the code of practice of the International Fragrance Association. The code can be found on IFRA website: <http://www.ifraorg.org>

(c) Fragrance substances subject to the declaration requirement provided for in Regulation (EC) No 648/2004 (Annex VII) and which are not already excluded by Criterion 3(c) and (other) fragrance substances classified H317/R43 (May cause allergic skin reaction) and/or H334/R42 (May cause allergy or asthma symptoms or breathing difficulties if inhaled) shall not be present in quantities $\geq 0.010\%$ (≥ 100 ppm) per substance.

(d) Fragrances shall not be used in hand dishwashing detergents for professional use.

Assessment and verification: a declaration of compliance with each part of criterion (a), (b) and (d). For criterion (c), the applicant shall provide a signed declaration of compliance indicating the amount of fragrances in the product. The applicant shall also provide a declaration from the fragrance manufacturer specifying the content of each of the substances in the fragrances which are listed in Annex III, Part I to Council Directive 76/768/EEC (12) as well as the content of (other) substances which have been assigned the risk phrases R43/H317 and/or R42/H334.

Proposed criterion 3 (d) – "Fragrances"

(i) Any ingoing substance or mixture added to the product as a fragrance shall be manufactured and handled following the code of practice of the International Fragrance Association (IFRA). The code can be found on the IFRA website: <http://www.ifraorg.org>. The recommendations of the IFRA Standards concerning prohibition, restricted use and specified purity criteria for materials shall be followed by the manufacturer.

(ii) Fragrance substances subject to the declaration requirement provided for in Regulation (EC) No 648/2004 of the European Parliament and of the Council on detergents (Annex VII) and which are not already excluded by criterion 2b shall not be present in quantities $\geq 0.010\%$ (≥ 100 ppm) per substance.

(iii) Fragrances shall not be used in hand dishwashing detergents for professional use.

Assessment and verification: the applicant shall provide a signed declaration of compliance, supported by a declaration of the fragrance manufacturer, as appropriate. The applicant shall also provide a declaration from the fragrance manufacturer specifying the content of each of the substances in the fragrances which are listed in Annex III of the Regulation (EC) No 1223/2009.

Rationale and discussion

No content-wise change is proposed for this criterion. Two exclusions of specific fragrances (atranol and chloroatranol) are proposed to be added and included in the sub-criterion (a) on specified excluded ingoing substances and mixtures, as well as the current requirement on exclusion of fragrance substances subject to the declaration requirement provided for in Regulation (EC) No 648/2004 of the European Parliament and of the Council on detergents (Annex VII) and which are not already excluded by criterion 2b and (other) fragrance substances classified H317/R43 (May cause allergic skin reaction) and/or H334/R42 (May cause allergy or asthma symptoms or breathing difficulties if inhaled) in quantities $\geq 0,010\%$ (≥ 100 ppm) per substance.

Background information on the criterion for fragrances is provided in Technical Annexe (Section 7.10.4).

Finally, update of the reference to Regulation (EC) No 1223/2009⁷³ (Cosmetic Regulation) instead of the Directive 76/768/EEC (Cosmetics Directive) was made.

⁷³ Regulation (EC) No 1223/2009 of the European Parliament and of the Council of 30 November 2009 on cosmetic products (recast) 9 22.12.200 Official Journal of the European Union L 342/59

6.8.7 Criterion 5: Corrosive properties

Current criterion 5

The product shall not be classified as a 'Corrosive' (C) mixture with R34 or R35 in accordance with Directive 1999/45/EC, or as a 'Skin Category 1' mixture in accordance with Regulation (EC) No 1272/2008.

Assessment and verification: the applicant shall provide the exact concentrations of all substances used in the product, either as part of the formulation or as part of any mixture included in the formulation, that are classified as 'Corrosive' (C) with R34 or R35 in accordance with Directive 1999/45/EC, or as a 'Skin Category 1' mixture in accordance with Regulation (EC) No 1272/2008 to the competent body, together with copies of the material safety data sheets.

Proposed criterion 5

(no changes proposed)

Rationale and discussion

There are no proposed changes to this criterion after the initial phase of the consultation.

Corrosives properties are assigned to chemicals (mainly acids and bases) that can attack and chemically destroy exposed body tissues. They can cause damage for instance to skin or eyes. As hand dishwashing detergents come into contact with the hands during use, it is important that the product is not corrosive to skin. As such the motivation behind this requirement still stands. In response to the consultation, stakeholders reported no issues and no suggested changes to the criterion on corrosive properties.

6.8.8 Criterion 6: Packaging requirements

Current criterion 6

Plastics that are used for the main container shall be marked in accordance with the European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging waste (2), or DIN 6120 part 1 and 2 in connection with DIN 7728 part 1.

If the primary packaging is made of recycled material, any indication of this on the packaging shall be in conformity with the ISO 14021 standard 'Environmental labels and declarations — Self declared claims (type II environmental labelling)'.

Only phthalates that at the time of application have been risk assessed and have not been classified according to criterion 3(c) may be used in the plastic packaging.

The weight utility ratio (WUR) of the primary packaging must not exceed the following values:

Product type	WUR
Hand dishwashing detergents that are diluted in water prior to use	1,20 gram packaging per litre use solution (dishwashing water)

Assessment and verification: the applicant shall provide a calculation of the WUR of the product to the competent body, together with a declaration of compliance with each part of this criterion. For criterion (c) the applicant shall provide completed and signed declaration of compliance.

Proposed criterion 6

a) Weight/utility ratio (WUR)

The weight/utility ratio (WUR) of the product shall be calculated for the primary packaging only and shall not exceed the following values for the [reference dosage](#):

Product type	WUR
Hand dishwashing detergents	1,20 g

Are exempted from this requirement:

- Plastic/paper/cardboard packaging containing more than 80 % recycled materials,
- [Paper/cardboard packaging that comes 80% from certified sustainable sources](#),
- [Plastic packaging containing more than 80 % plastic from sustainable sources](#).

Assessment and verification: the applicant shall provide the calculation of the WUR of the product. A spreadsheet for this calculation is available on the EU Ecolabel website. If the product is sold in different packaging (i.e. with different volumes), the calculation shall be submitted for each packaging size for which the EU Ecolabel shall be awarded.

[The applicant shall provide a completed and signed declaration for the content of recycled material in the packaging.](#)

- [For paper and cardboard, packaging is regarded as recycled if the raw material used to make the packaging has been collected from packaging manufacturers at the distribution stage or at the consumer stage. Where the raw material is industrial waste from the material manufacturer's own production process, then the material will not be regarded as recycled.](#)

- [For plastic, packaging is regarded as recycled if the raw material used to make the packaging comes from industrial waste or has been collected from packaging manufacturer at the distribution or at the consumer stage.](#)

[The applicant shall provide a completed and signed declaration for the content of sustainably sourced material in the packaging. For paper and cardboard, the applicant shall provide TBD. For plastic, the applicant shall provide TBD.](#)

The WUR is calculated as follows:

$$WUR = \sum ((W_i + U_i)/(D_i * R_i))$$

Where:

W_i : weight (g) of the primary packaging (i),

U_i : weight (g) of non-recycled and non-sustainably sourced packaging in the primary packaging (i). $U_i = W_i$ unless the applicant can document otherwise,

D_i : number of reference doses contained in the primary packaging (i),

R_i : number of times that the primary packaging (i) can be refilled and used for the same purpose. $R_i = 1$ (packaging is not reused for the same purpose) unless the applicant can document a higher number.

b) Design for recycling

Plastic packaging shall be designed to facilitate effective recycling by avoiding potential contaminants and incompatible materials that are known to impede separation or reprocessing or to reduce the quality of recycle. The label or sleeve, closure and, where applicable, barrier coatings shall not comprise, either singularly or in combination the materials and components listed in Table 42. Pumps are exempted from this requirement.

Table 42: Materials and components excluded from packaging elements

Packaging element	Excluded materials and components ⁷⁴
Label or sleeve	<ul style="list-style-type: none"> - PS label or sleeve in combination material used with a PET, PP or HDPE bottle - PVC label or sleeve in combination with a PET, PP or HDPE bottle - PETG label or sleeve in combination with a PET bottle - Sleeves made of different polymer than the bottle - Labels or sleeves that are metallised or are welded to a packaging body (in mould labelling)
Closure	<ul style="list-style-type: none"> - PS closure in combination a with a PET, HDPE or PP bottle - PVC closure in combination with a PET, PP or HDPE bottle - PETG closures and/or closure material with density of above 1 g/cm³ in combination with a PET bottle - Closures made of metal, glass, EVA - Closures made of silicone. Exempted are silicone closures with a density < 1 g/cm³ in combination with a PET bottle and silicone closures with a density > 1g/cm³ in combination with PEHD or PP bottle - Metallic foils or seals which remain fixed to the bottle or its closure after the product has been opened
Barrier coatings	Polyamide, EVOH, functional polyolefins, metallised and light blocking barriers

Assessment and verification: The applicant shall submit a signed declaration of compliance specifying the material composition of the packaging including the container, label or sleeve, adhesives, closure and barrier coating, and a sample of primary packaging.

Rationale and discussion

From a life cycle perspective, packaging is not the most important environmental impact for consumer laundry detergents but can represent up to 37% of impact contribution for agricultural land occupation when non-recycled is used in the packaging (Section 4.4 - Preliminary Report), for example. It is therefore proposed that a criterion on packaging is kept present in the EU Ecolabel for laundry detergents.

Further information on the wording of the proposed criterion and background information on packaging can be found in the Technical Annexe (Section 7.11).

⁷⁴ EVA – Ethylene Vinyl Acetate, EVOH – Ethylene vinyl alcohol, HDPE – High-density polyethylene, PET – Polyethylene terephthalate, PETG – Polyethylene terephthalate glycol-modified, PP – Polypropylene, PS – Polystyrene, PVC – Polyvinylchloride

a) Weight/Utility Ratio (WUR)

No changes are proposed to the WUR values, although some stakeholders have pointed out that the current limits are too strict. In order to facilitate the compliance with the requirement, it is proposed to consider the percentage of recycled and sustainably sourced materials when calculating WUR, in order to promote the use of these types of materials. Should fabric softeners be added to the scope of the EU Ecolabel for laundry detergents, these would fall under the "other" category.

Further information on this aspect can be found in the Technical Annexe (Section 7.11.3.1).

b) Design for recycling

In line with the EU Ecolabel on Rinse-off cosmetics, it is proposed to remove the requirement on the labelling of plastics parts but instead to promote the recyclability of packaging by avoiding combinations of incompatible materials and potential contaminants.

Further information on this aspect can be found in the Technical Annexe (Section 7.11.3.4).

Consultation questions	
1	Packaging is not one of the top 4 KPIs for hand dishwashing detergents, should a criterion related to it be kept?
2	Are the WUR limits appropriate?
3	Is the design for recycling requirement suitable for this product group?

6.8.9 Criterion 7: Fitness for use

Current criterion 7

The product shall be fit for use, meeting the needs of the consumers.

The cleaning ability and cleaning capacity must be equivalent to or better than that of the generic reference detergent specified below.

Assessment and verification: the cleaning ability and cleaning capacity must be tested by means of an adequate and justifiable laboratory performance test carried out and reported within specified parameters as stated in the framework described in 'Framework for testing the performance of hand dishwashing detergents' that can be found here: http://ec.europa.eu/environment/ecolabel/ecolabelled_products/categories/hand_dishwashing_detergents_en.htm

The generic reference detergent shall be the one prescribed in IKW performance test 'Recommendation for the quality assessment of the cleaning performance of hand dishwashing detergents' (SÖFW-Journal, 128, 5, pp. 11-15, 2002) with the adaptation that the dosage applied in the performance test is set at 2.5 millilitres of the reference detergent per 5 litres of water.

The IKW performance test 'Recommendation for the quality assessment of the cleaning performance of hand dishwashing detergents' (SÖFW-Journal, 128, 5, pp. 11-15, 2002) method may be applied with the mentioned adaptation and can be downloaded from: http://www.ikw.org/pdf/broschueren/EQ_Handgeschirr_e.pdf

Proposed criterion 7

Tests shall be carried out to ensure that the product has a satisfactory wash performance at the lowest recommended dosage for the water hardness under 'Framework for testing the performance of hand dishwashing detergents' available at: http://ec.europa.eu/environment/ecolabel/documents/performance_test.pdf

The test shall be performed by a laboratory complying with Appendix (to be added).

The reference product is tested at the lowest recommended dosage that is stated on the packaging. If no dosage instructions are provided, the same dosage is used as for the test product.

The product shall be tested against another consumer product. If the product is marketed for both professional and consumer use it shall be tested against a professional product

Alternatively, the IKW performance test 'Recommendation for the quality assessment of the cleaning performance of hand dishwashing detergents' method may be applied with the adaptation that the dosage applied in the performance test is set at 2,5 millilitres of the reference detergent per 5 litres of water. It and can be downloaded from: http://ec.europa.eu/environment/ecolabel/documents/performance_test.pdf

Assessment and verification: The applicant shall provide documentation confirming that the product has been tested under the standard/protocol conditions.

If a laboratory test is performed, information should be provided on:

- (a) Type of spots that are representative for the kind of soiled expected in the areas where the products will be marketed.
- (b) Information on the recommended dosage at the corresponding water hardness and the lowest recommended wash temperature at which the product claims to be effective
- (c) The product's ability to remove soiling from the surfaces or materials
- (d) Information about the reference product against which the test product has been tested: market leadership, lowest commended dosage or dosage used (if no information is provided) and temperature, date of purchase and date of testing.
- (e) Documentation confirming the compliance within the laboratory requirements included in Appendix (to be added)

If a user test is performed, information should be provided on:

- a) the way the test users were selected, all raw data from the tests and the test procedure
- (b) all reply forms received from the test users and the overall result on the wash performance of the user test specified in a table/a form. The response must be rated in accordance with Appendix (to be added)
- (c) information on how satisfied the test center is with visit reporting arrangements and the categories rated.

Rationale and discussion

Satisfactory fitness for use of hand dishwashing detergents ensures that the maximum performance of the product is achieved while getting a minimum environmental impact. *Further information about the most important parameters that influence the washing performance are included in the Technical Annexe (Section 7.12).*

An EU Ecolabel protocol based on the IKW recommendation for the quality assessment of the cleaning performance of hand dishwashing detergents⁷⁵ was updated in 2011 being the test proposed in this revision. The test protocol is based on a laboratory test, for which the only feedback collected was the need for improvement in the number of repetitions.

Consultation questions	
1	Should the number of repetitions required under the 'Framework for testing the performance of hand dishwashing detergents' be increased to at least 20 (this was also proposed for APCs)?
2	Does the criterion need to provide further information regarding the specification and supply of test soil?

⁷⁵ SÖFW-Journal, 128, 5, pp. 11-15, 2002

6.8.10 Criterion 8: User instructions

Current criterion 8

The product shall bear the following information on the packaging:

- a) 'Do not use running water but immerse the dishes, and use the recommended dosage' (or equivalent text);
- b) Information on the recommended dosage shall appear on the packaging in a reasonably sufficient size and against a visible background. The information shall be provided in millilitres (and tea spoons) of product for 5 litres of dishwashing water suitable for 'dirty' and 'less dirty' dishes;
- c) An indication of the approximate number of washes that the consumer can perform with one bottle is recommended but voluntary.

This is calculated by dividing the volume of the product by the dosage required for 5 litres of dishwashing water for dirty dishes.

Assessment and verification: the applicant shall provide a sample of the product packaging, including the label to the competent body, together with a declaration of compliance with each part of this criterion.

Proposed criterion 8 - "User information"

The detergent shall be accompanied by instructions for proper use so as to maximise product performance and minimise waste. These instructions shall be legible or include graphical representation or icons and include information on:

a) dosing instructions

The primary packaging shall include information on the recommended dosage and dilution instructions:

- for non-professional products: in ml per 5l dishwashing water
- for professional products: in ml per liter of dishwashing water

A second well-known metric, such as tea spoons, shall be given in brackets. If the packing has an efficient and convenient dosage system, this dosage (i.e. capfuls, squirts, or other) can be used as the alternative metric.

If needed, information on water hardness or where this information can be found out shall be included.

b) resource saving measures

The text "do not use running water but immerse the dishes" and "wash at the lowest suitable temperature" or equivalent shall be included on the primary packaging.

c) dose number (voluntary)

An indication of the approximate number of washes that the consumer can perform with one bottle is recommended but voluntary. This is calculated by dividing the volume of the product by the dosage required for 5 litres of dishwashing water for normally soiled dishes.

d) packaging disposal information

The primary packaging shall include information on the reuse, recycling and/or correct disposal of packaging.

e) environmental information (voluntary)

The following text is recommended to appear on the primary packaging but its use is voluntary:

"All detergents have an effect on the environment. Always use the correct dose for maximum effectiveness, the lowest recommended temperature. This will minimize both energy and water consumption and reduce water pollution".

Assessment and verification: The applicant shall provide a sample of the product packaging, including the label.

Rationale and Discussion

Information appearing on the packaging provides useful information on how the user should use the product most effectively to achieve the best cleaning results whilst minimising the environmental impacts. The Technical Annex (Section 7.12) analyses the different points that should be communicated to users. Only those points that are relevant for this product group are included in the wording of this criterion.

Consultation questions	
1	Are separate dosage instructions required for professional and non-professional users?
2	Are the proposed dosage instructions clear and easy to understand?
3	Is the use of icons or graphical information an added-value to the product?

6.8.11 Criterion 9: Information appearing on the EU Ecolabel

Current criterion 9

Optional label with text box shall contain the following text:

- ‘— reduced impact on aquatic life,
- reduced use of hazardous substances,
- reduced packaging waste,
- clear user instructions.’

The guidelines for the use of the optional label with text box can be found in the ‘Guidelines for the use of the EU Ecolabel logo’ on the website: http://ec.europa.eu/environment/ecolabel/promo/logos_en.htm

Assessment and verification: the applicant shall provide a sample of the label, together with a declaration of compliance with this criterion.

Proposed criterion 9

The logo should be visible and legible. The use of the EU Ecolabel logo is protected in primary EU law. The EU Ecolabel registration/licence number must appear on the product, it must be legible and clearly visible.

The optional label with text box shall contain the following text:

- reduced impact on aquatic ecosystems
- limited hazardous substances
- performance tested

Assessment and verification: The applicant shall provide a sample of the product packaging, including the label.

Rationale and discussion

Information on the harmonised text for the Criterion on Information appearing on the EU Ecolabel can be found in the Technical Annexe (Section 7.14).

Consultation questions

- | | |
|---|--|
| 1 | Are the proposed statements suitable, illustrative of claims and an improvement? |
|---|--|

6.8.12 Criterion NEW - Sustainable sourcing of palm oil, palm kernel oil and their derivatives

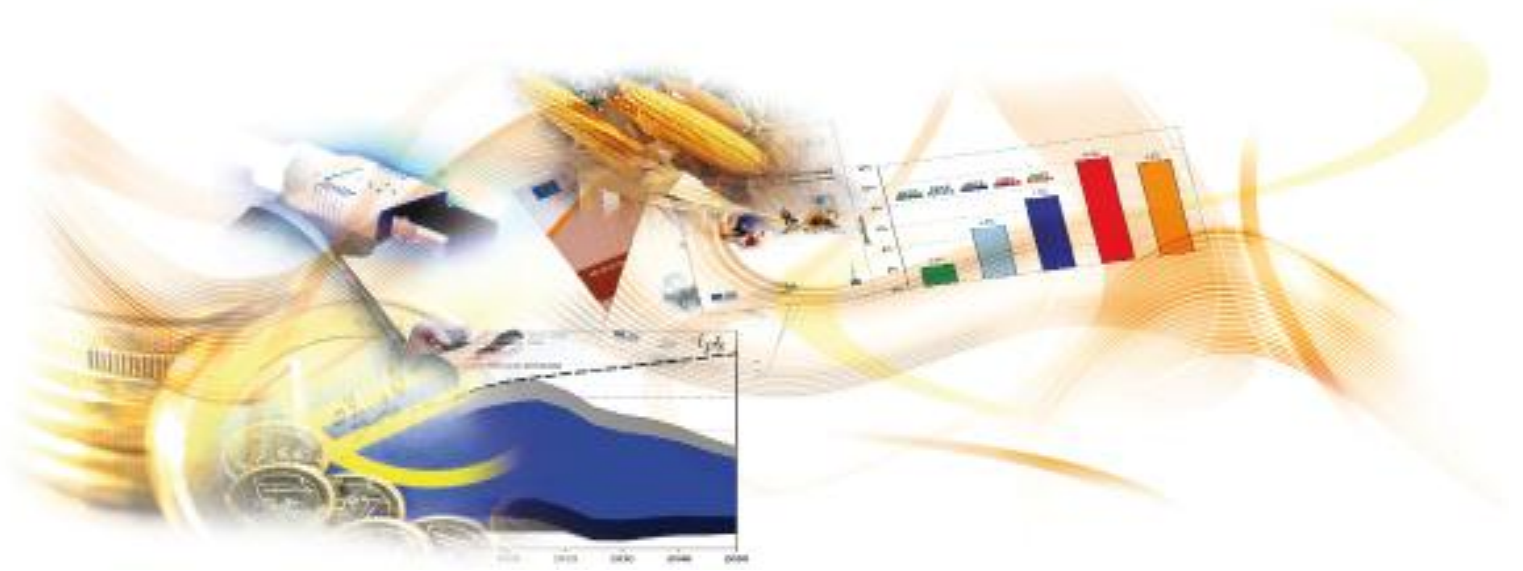
Proposed addition

Ingredients used in the product which are derived from palm oil or palm kernel oil must be sourced from plantations that meet the criteria for sustainable management that have been developed by multi-stakeholder organisations who have a broad based membership including NGOs, industry and government.

Assessment and verification: the applicant shall provide third-party certifications that the palm oil used in the manufacturing of the product originates from sustainable managed plantations. Certifications accepted shall include RSPO (by identified preserved, segregates or mass balance) or any equivalent scheme based on multi-stakeholder sustainable management criteria. For chemical derivatives of palm oil it is acceptable to demonstrate sustainability for these through book and claim systems such as GreenPalm or equivalent.

Rationale and discussion

Further information on this criterion can be found in the Technical Annexe (Section 7.15).



J R C T E C H N I C A L R E P O R T S

7 TECHNICAL ANNEXE

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GLOSSARY

Active content	The weight of organic ingredients in the product including in-going substances and any organic propellants or solvents.
AE	Alcohol ethoxylates; a class of compounds (including APEOs) on the DID List.
AISE	Detergents industry trade body.
APEOs APDs	Alkylphenoethoxylates; alkylphenol derivatives; persistent surfactants.
CEFIC	European Chemical Industry Council.
CESIO	European Committee of Organic Surfactants and their Intermediates.
CLP Regulation	Regulation (EC) No 1272/2008 on the classification, labelling and packaging of substances and mixtures.
CDV	Critical dilution volume; factorial reduction volume of water needed to render a compound below its TFchronic. The factor is adjusted by the Degradation Factor i.e. how fast it degrades in the environment.
DF	Degradation factor; as described for a substance on the DID List, a measure of its rate of degradation in the environment and hence diminution of toxic potential.
DID List	A tool developed for the EU Ecolabel and Nordic Swan, which contains toxicity and degradation information on over 200 commonly used ingredients in detergents and cosmetics.
ECHA	European Chemicals Agency.
HERA	Human & Environmental Risk Assessment; a voluntary industry programme to carry out Human and Environmental Risk Assessments on ingredients of household cleaning products
I&I	Industrial & Institutional (commonly used as a prefix to uses, users, products...).
IFRA	International Fragrance Association.
In-going substance	A named compound in a product irrespective of whether it is intended (i.e. it is an ingredient) or unintended (i.e. it is an impurity in an ingredient).
Ingredient	A named compound in a product; the compound as stated on the material data sheet. Compare 'In-going substance'.
LAS	Linear alkyl benzene sulphonates; a particularly persistent surfactant formulation on the DID List.
OECD	Organisation for Economic Development and Cooperation.
PEC/PNEC	Predicted Environmental Concentration (PEC)--which is the concentration one expects to find in the environment; and Predicted No Effect Concentration (PNEC)--that is, the concentration that causes no adverse effect to the Environment. The ratio is used as an indicator of risk and is called the Risk Quotient (RQ).
PVNO/PVPI	Poly(2-vinylpyridine-1-oxide), and poly(2-vinylpyridine-1-oxide)-poly(N-vinylpyrrolidone); dye transfer inhibitors used in laundry detergents which bond to metals in dyes.

REACH	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency
SCCS (formerly SCCP)	Scientific Committee on Consumer Safety.
SCHER	Scientific Committee on Health and Environmental Risks; one of three independent non-food Scientific Committees provide the Commission with the scientific advice it needs when preparing policy and proposals relating to consumer safety, public health and the environment.
TF(chronic, acute)	Toxicity factor; a measure of the aquatic harm potential of a substance. Major substances are recorded in the DID List.
WHO	World Health Organisation.
WUR	Weight/utility ratio; a measure of the amount of packaging per number of doses/washes/cleaning operations notionally available from the product contents.
WWTP	Waste water treatment plant.

7.1 Introduction

The following Technical Annexe presents background information, templates for harmonised wording of criteria and rationale behind the proposed changes for horizontal issues that are common to several EU Ecolabels related to detergent product groups. Its aim is to limit the amount of identical content in the six Technical Reports and to facilitate the understanding of how horizontal issues are currently and are proposed to be handled in the EU Ecolabel scheme.

In all, there are six sets of EU Ecolabel criteria in the detergent product groups. These are:

- laundry detergents (LD),
- industrial and institutional laundry detergents (IILD),
- detergents for dishwashers (DD),
- industrial and institutional automatic dishwasher detergents (IIDD),
- hand dishwashing detergents (HDD),
- all-purpose cleaners and sanitary cleaners (APC).

In order to get a full understanding of each EU Ecolabel criteria under revision, one should consult the corresponding Technical Report and the following Technical Annexe. General information on the product groups can also be found in the Preliminary Reports that have been published.

7.2 Criteria structure

The current structure of the EU Ecolabels related to the detergents product groups are schematically presented in Table 44 below. Criteria that cover similar issues are highlighted in identical colours, including where two or more existing criteria will be merged into a single one (i.e. fragrances will now always be included under the general criterion related to restricted substances). From the Table 44 it is clear that while a large portion of the structures are similar, more harmonisation can be achieved – the new proposed structures for the criteria sets are shown in Table 45.

Table 44 Current structure of the EU Ecolabels related to the detergents product groups

Criterion	LD	IILD	DD	IIDD	APC	HDD
1	Dosage requirement	Dosage information	Total chemicals	CDV	CDV	CDV
2	CDV	CDV	Restricted substances	Biodegradability	Biodegradability	Biodegradability
3	Biodegradability	Biodegradability	CDV	Restricted substances	Restricted substances	Restricted substances
4	Restricted substances	Restricted substances	Biodegradability	Packaging	Fragrances	Fragrances
5	Packaging	Packaging	Washing performance	Washing performance	VOC	Corrosive properties
6	Washing performance	Washing performance	Packaging	Automatic dosing system	Phosphorus	Packaging
7	Points	Automatic dosing system	Consumer information	Consumer information/information on EU Ecolabel	Packaging	Washing performance
8	Consumer information	Consumer information/information on EU Ecolabel	Information on EU Ecolabel		Washing performance	Consumer information
9	Information on EU Ecolabel				Consumer information	Information on EU Ecolabel
10					Information on EU Ecolabel	
11					Professional training	

Table 45 Proposed structure of the EU Ecolabels related to the detergents product groups

Criterion	LD	IILD	DD	IIDD	APC	HDD
1	Dosage requirement	CDV	Dosage requirement	CDV	CDV	CDV
2	CDV	Biodegradability	CDV	Biodegradability	Biodegradability	Biodegradability
3	Biodegradability	Sustainable sourcing of palm oil, etc.	Biodegradability	Sustainable sourcing of palm oil, etc.	Sustainable sourcing of palm oil, etc.	Sustainable sourcing of palm oil, etc.
	Sustainable sourcing of palm oil, etc.	Restricted substances	Sustainable sourcing of palm oil, etc.	Restricted substances	Restricted substances	Restricted substances
4	Restricted substances	Packaging	Restricted substances	Packaging	VOC	Corrosive properties
5	Packaging	Fitness for use	Packaging	Fitness for use	Packaging	Packaging
6	Fitness for use	Automatic dosing systems	Fitness for use	Automatic dosing systems	Fitness for use	Fitness for use
7	Points (if kept)	Consumer information/ information on EU Ecolabel	Consumer information/ information on EU Ecolabel	Consumer information/ information on EU Ecolabel	Consumer information/ information on EU Ecolabel	Consumer information/ information on EU Ecolabel
8	Consumer information/ information on EU Ecolabel				Professional training (if not merged with "consumer information")	

While ideally it would be simpler to have all identical criteria in the same position as to be able to always refer to "criterion 3 in detergents EU Ecolabel" and know that it refers to i.e. biodegradability, this is not possible given the fact that the maximum dosage, or other requirements regarding dosage and dosing, should always be the first criterion to meet but is not present in all EU Ecolabels related to detergents.

7.3 Article 1 – Name, scope and definition

7.3.1 Industrial and institutional vs consumer detergents

Within the context of the EU Ecolabel and this report, the definition of detergents is that used in Regulation (EC) No 648/2004 (the Detergents Regulation)⁷⁶:

***‘Detergent’** means any substance or mixture containing soaps and/or other surfactants intended for washing and cleaning processes. Detergents may be in any form (liquid, powder, paste, bar, cake, moulded piece, shape, etc.) and marketed for or used in household, or institutional or industrial purposes.*

This definition is broad in scope as says nothing *per se* about the differentiating features of products intended for different uses and/or users. The current EU Ecolabels for detergents make mostly a difference based on the intended use of the products and/or the users, even if there appear to be no absolute criteria to differentiate them. The wording among the definitions is neither harmonized nor completely clear in this respect.

Regarding the users of the products, different users imply different user requirements and methods of application of products, which at the same time, interacts strongly with their formulation. Regarding the use of the detergents or the places to be applied, there are mainly two groups of detergents to differentiate: those that are classified as industrial and institutional detergents and the ones for household use.

Industrial and institutional facilities are considered to be places such as business, hospitals, nursing homes, prisons, schools, textile leasing companies, hotels, restaurants, health clubs, processing and other industries. In some cases, domestic products could be readily used for industrial and institutional use, where the application appears to be the same. For example, routine cleaning of uniforms from a retail environment would be indistinguishable from apparel washing in the home.

The differences in formulation between detergents intended for private and professional use mainly fall into the following two categories:

- restricted or permitted ingredients: there are substances that are allowed in detergents intended for private use but restricted in those intended for professional use and vice versa. For example fragrances are often more restricted in professional products as aesthetic requirements do not outweigh the chemical risks related to dangerous substances in more concentrated products.

- undiluted/concentrated or ready-to-use format: professional users will often buy concentrated formulations that need dilution at the point of use. This is in order to achieve economies of scale in purchase, minimize transport and storage volumes and provide flexibility in determining concentration depending on application (degree of soiling; potentially catering for water hardness, though this is not commonly indicated as a user parameter). However, this is not an exclusive differentiator between users. Professional users will also buy the ready-to-use sprays, etc. commonly used by domestic customers. Conversely, concentrated products are also available to private consumers, as is typically the case for hard surface cleaners (floors, for example) making it difficult to differentiate ‘professional use’ solely on the concentration of products.

The following table summarizes the current definitions stated in the EU Ecolabels of the detergent product groups that are under revision; the indicated intended uses are highlighted in bold.

⁷⁶ Regulation (EC) No 648/2004 of the European Parliament and of the Council of 31 March 2004 on detergents (L 104/1 OJEU 8.4.2004) Available from: http://ec.europa.eu/enterprise/sectors/chemicals/documents/specific-chemicals/detergents/index_en.htm

Table 46 Summary of the current definition for detergents

Product group	Current definitions for detergents
Industrial and institutional dishwasher detergents	<p>Shall comprise single- and multi-component dishwasher detergents, rinse and pre-soaks, designed for use in professional dishwashers.</p> <p>The following products are excluded from the scope of this product group: CADD, detergents intended to be used in washers of medical devices or in special machines for the food industry. Sprays not dosed via automatic pumps are excluded from this product group.</p>
Industrial and institutional laundry detergents	<p>Are laundry detergent products performed by professional users in the industrial and institutional sectors. Included in this product group are multi-component-systems constituting of more than one component used to build up a complete detergent or a laundering program for automatic dosing system.</p> <p>This product group shall not comprise products for obtaining textile attributes such as water-repellent, waterproof or fire-proof, etc.</p> <p>Furthermore, the product group shall not comprise products that are dosed by carriers such as sheets, cloths or other materials, as well as washing auxiliaries used without subsequent washing, such as stain removers for carpets and furniture upholstery. Consumer laundry products are excluded from the scope of this product group.</p>
Detergents for dishwashers	<p>Shall comprise detergents for dishwashers and product used as rinse aids, whether in powder, liquid or any other form, which are intended to be marketed and used exclusively in automatic domestic dishwashers and in automatic dishwashers for professional use, the size and usage of which is similar to that of domestic dishwashers.</p>
Laundry detergents	<p>Laundry detergents and pre-treatment stain removers whether in powder, liquid or any other form which are marketed and used for the washing of textiles principally in household machines but not excluding their use in laundrettes and common laundries.</p> <p>Pre-treatment stain removers include stain removers used for direct spot treatment of textiles (before washing in the machine) but do not include stain removers dosed in the washing machine and stain removers dedicated to other uses besides pre-treatment.</p> <p>This product group shall not comprise products that are dosed by carriers such as sheets, cloths or other materials nor washing auxiliaries used without subsequent washing such as stain removers for carpets and furniture upholstery.</p>
All-purpose cleaners	<p>Shall comprise: all-purpose cleaners, window cleaners, and sanitary cleaners.</p> <p>a) All-purpose cleaners comprising detergent products intended for the routine cleaning of floors, walls, ceilings, windows and other fixed surfaces, and which are either diluted in water prior to use or used without dilution. All-purpose cleaners shall mean products intended for indoor use in buildings which include domestic, commercial and industrial facilities.</p> <p>b) Window cleaners comprising specific cleaners intended for the routine cleaning of windows, and which are used without dilution.</p> <p>c) Sanitary cleaners comprising detergent products intended for the routine removal, including by scouring, of dirt and/or deposits in sanitary facilities, such as laundry rooms, toilets, bathrooms, showers and kitchens. This subgroup thus contains bathroom cleaners and kitchen cleaners.</p> <p>The product group shall cover products for both private and professional use. The products shall be mixtures of chemical substances and must not contain micro-organisms that have been deliberately added by the manufacturer.</p>
Hand dishwashing detergents	<p>Shall comprise all detergents intended to be used to wash by hand dishes, crockery, cutlery, pots, pans, kitchen utensils and so on.</p> <p>The product group shall cover products for both private and professional use. The products shall be a mixture of chemical substances and must not contain microorganisms that have been deliberately added by the manufacturer.</p>

As seen in Table 46, there is a variety of terms that refers to each of the two types of detergents (industrial & institutional and for household use). For example, terms related with the use of the detergents by professionals include 'industrial and institutional', 'professional use', 'use in

professional equipment', 'commercial facilities', 'industrial facilities', 'industrial and institutional sector', etc. On the other hand, terms related to the use of detergents by the general public include 'consumer product', 'private use', 'domestic facilities', 'household equipment', etc.

The Detergent Regulation (EC) No 648/2004 provides several definitions that can guide the detergents classifications and be the basis for a possible harmonization. This Regulation, however, does not provide the definitions for all type of detergents and even those that are provided are not fully harmonized. For example, 'consumer laundry detergents' and 'consumer automatic dishwasher detergents' are defined as follows

***"consumer laundry detergent"** means a detergent for laundry placed on the market for use by non-professionals, including in public laundrettes*

***"consumer automatic dishwasher detergents"** means a detergent placed on the market for use in automatic dishwashers by non-professionals*

Moreover, in Annex VII of the Regulation, which sets up the provisions on labelling that shall apply to the packaging, the same detergents are referred to as **'detergents sold to the general public'**.

In both definitions, the words related to the use of the detergents are highlighted. Several differences can be noted when comparing these two definitions to those included in the current EU Ecolabel criteria for detergents for dishwashers and laundry detergents:

a) the word 'consumer' is not included in the name of the EU Ecolabel schemes. The scope of the EU Ecolabel schemes is also wider than that of the definitions provided by the Detergent Regulation as in the EU Ecolabels both cover consumer detergents and also those that are similar or can be used in the facilities where consumer detergents can be used.

b) the intended use refers to different things. In the Detergent Regulation the use refers to the type of user (non-professionals) while in the EU Ecolabel the use refers to the facilities to be used.

The Detergents Regulation does not provide definitions for consumer all-purpose cleaners and hand dishwashing detergents. In the respective EU Ecolabels, the intended use of these products is not defined including the word 'consumers' but by making a reference to the facilities and the type of users, for example, 'domestic facilities' or 'private use'.

The Detergent Regulation also provides a general definition of what should be considered an 'industrial and institutional detergent'. This definition reads:

***"industrial and institutional detergent"** means a detergent for washing and cleaning outside the domestic sphere, carried out by specialised personnel using specific products.*

This definition uses the terms 'outside the domestic sphere' and 'specialised personnel' to refer to the use and users. Although the terms 'industrial and institutional product' is used in the EU Ecolabel for detergent product groups, they also introduce other terms to define both the use ('professional use', 'professional equipment', 'to be used in commercial or industrial facilities') and the users ('specialised personnel' as 'professional users in the industrial and institutional sector') of this kind of products.

Even though there is a lack of harmonisation in the terms used, there is a need to clearly make a distinction between products to be used by professional users and the ones intended for household use. Indeed, as the Detergents Regulation requirements concerning the restriction of substances and labelling of products are different for the two types of products, and the detergents intended to be used in the industrial and institutional sector should not be made available to members of the general public without the inclusion of additional information on the label to ensure appropriate consumer protection.

In order to bring higher harmonization among the terms used in the definitions included in the EU Ecolabels related to detergent product groups under revision and those included in the Detergent Regulation, a rewording of the current EU Ecolabel definitions is proposed. In the revised definitions, and in line with the terms included in the Regulation, the names of the products shall be labelled as '**consumer**' detergents' or '**industrial and institutional**' detergents' and the **intended users** of the products will be referred, as much as possible, as '**consumers**' or '**non-professionals**' and '**professionals**' or '**specialised personnel**'.

The terms included in the Detergent Regulation regarding the **intended use** of the products are not so clear. Therefore the proposed harmonization is based on the six current definitions in the EU Ecolabel schemes. The use carried out by professionals is proposed to be named as **'professional use'** or as taking place in **'professional facilities'** or **'industrial and institutional facilities'** while the use performed by non-professionals is proposed to be named **'private use'** or as taking place in **'domestic facilities'**.

Using the proposed harmonisation approach, the revised names and definitions read:

Table 47 Proposal for revised names and definitions

EU Ecolabel proposed names and definitions	
Industrial and institutional dishwasher detergents	<p>Shall comprise single- and multi-component dishwasher detergents, rinse and pre-soaks, designed for use in professional dishwashers.</p> <p>Multi-component systems may incorporate a number of products including pre-soaks and rinsing agents.</p> <p>The following products are excluded from the scope of this product group: consumer automatic dishwasher detergents (CADD), detergents intended to be used in washers of medical devices or in special machines for the food industry. Sprays not dosed via automatic pumps are excluded from this product group.</p>
Industrial and institutional laundry detergents	<p>Shall comprise laundry detergent products used by professionals in industrial and institutional facilities. Included in this product group are multi-component-systems constituting of more than one component used to build up a complete detergent or a laundering program for automatic dosing system.</p> <p>This product group shall not comprise products for obtaining textile attributes such as water-repellent, waterproof or fire-proof, etc.</p> <p>Furthermore, the product group shall not comprise products that are dosed by carriers such as sheets, cloths or other materials, as well as washing auxiliaries used without subsequent washing, such as stain removers for carpets and furniture upholstery.</p> <p>Consumer laundry products are excluded from the scope of this product group.</p>
Consumer dishwasher detergents	<p>Shall comprise detergents for dishwashers and product used as rinse aids, whether in powder, liquid or any other form, which are intended to be marketed and used exclusively in automatic domestic dishwashers and in automatic professional dishwashers, the size and usage of which is similar to that of domestic dishwashers.</p>
Consumer laundry detergents	<p>Shall comprise laundry detergents and pre-treatment stain removers whether in powder, liquid or any other form which are marketed and used for the washing of textiles principally in domestic machines but not excluding their use in laundrettes and common laundries.</p> <p>Pre-treatment stain removers include stain removers used for direct spot treatment of textiles (before washing in the machine) but do not include stain removers dosed in the washing machine and stain removers dedicated to other uses besides pre-treatment.</p> <p>This product group shall not comprise products that are dosed by carriers such as sheets, cloths or other materials nor washing auxiliaries used without subsequent washing such as stain removers for carpets and furniture upholstery.</p>
Cleaning products	<p>Shall comprise: all-purpose-cleaners, window cleaners and sanitary cleaners.</p> <p>a) All-purpose cleaners comprising detergent products intended for routine cleaning of hard surfaces such as walls, floors and other fixed surfaces.</p> <p>b) Window cleaners comprising specific detergents intended for the routine cleaning of windows, glass and other highly polished surfaces.</p> <p>c) Sanitary cleaners comprising detergents products intended for the routine removal, including by scouring, of dirt and/or deposits in sanitary facilities, such as laundry rooms, toilets, bathrooms, showers and kitchens. This subgroup contains WC cleaners, bathroom cleaners and kitchen cleaners.</p>

EU Ecolabel proposed names and definitions

	<p>The product group shall cover products for both private and professional use, intended for indoor use and sold either in ready-to-use (to be used without dilution in water) or undiluted form. Products shall be mixtures of chemical substances and must not contain micro-organisms that have been deliberately added by the manufacturer. Wipes containing cleaning agents are not eligible for the EU Ecolabel for cleaning products.</p>
Hand dishwashing detergents	<p>Shall comprise all detergents intended to be used to wash by hand glassware, crockery and kitchen utensils including cutlery, pots, pans and ovenware.</p> <p>The product group shall cover products for both private and professional use.</p> <p>The products shall be a mixture of chemical substances and must not contain microorganisms that have been deliberately added by the manufacturer.</p>

7.4 Article 2 – Definitions

7.4.1 Current state

In the current versions of the EU Ecolabels related to detergents, the section on definitions of terms can often be found in Article 2 of the body of the EU Ecolabels. As shown in Table 48, there are more or fewer terms defined and some definitions can be included in the Annexes (only the example of "ingoing substances" is included).

Table 48 Summary of the current product group definitions

	Current product group definitions
Laundry detergents	<p>(1) 'heavy-duty detergents' means detergents used for ordinary washing of white textiles at any temperature;</p> <p>(2) 'colour-safe detergents' means detergents used for ordinary washing of coloured textiles at any temperature;</p> <p>(3) 'low-duty detergents' means detergents intended for delicate fabrics;</p> <p>(4) 'substance' means a chemical element and their compounds in the natural state or obtained by any production process, including any additive necessary to preserve the stability of the products and any impurity deriving from the process used, but excluding any solvent which may be separated without affecting the stability of the substance or changing its composition.</p> <p>Annex (1)(b) mentions, "Ingoing substances are defined as all substances in the product including additives (e.g. preservatives or stabilisers) in the ingredients. Impurities resulting from the raw material production, which are present in concentrations > 0,010 % by weight of the final formulation shall also comply with the criteria."</p>
I&I Laundry detergents	<p>No explicit definitions in the main text.</p> <p>Annex (1) (b) mentions, "Substances meeting the threshold limit as listed above are hereby referred to as 'Ingoing substances'."</p>
Dishwasher detergents	<p>'Substance' means a chemical element and their compounds in the natural state or obtained by any production process, including any additive necessary to preserve the stability of the products and any impurity deriving from the process used, but excluding any solvent which may be separated without affecting the stability of the substance or changing its composition.</p> <p>Annex (1)(b) mentions, "Ingoing substances are defined as all substances in the product including additives (e.g. preservatives or stabilizers) in the ingredients. Impurities resulting from the raw material production, which are present in concentrations > 0,010 % by weight of the final formulation shall also comply with the criteria."</p>
I&I Dishwasher detergents	<p>No explicit definitions in the main text.</p> <p>Annex (1) (b) mentions, "Substances meeting the threshold limit as listed above are hereby referred to as 'Ingoing substances'."</p>
All-purpose cleaners and sanitary cleaners	<p>1. 'substance' means a chemical element and its compounds in the natural state or obtained by any production process, including any additive necessary to preserve the stability of the product and any impurity deriving from the process used but excluding any solvent, which may be separated without affecting the stability of the substance or changing its composition;</p> <p>2. 'product' (or 'mixture') means a mixture or solution of two or more substances, which do not react.</p>
Hand dishwashing detergents	<p>1. 'substance' means a chemical element and its compounds in the natural state or obtained by any production process, including any additive necessary to preserve the stability of the product and any impurity deriving from the process used but excluding any solvent, which may be separated without affecting the stability of the substance or changing its composition;</p> <p>2. 'product' (or 'mixture') means a mixture or solution of two or more substances, which do not react.</p>

7.4.2 Proposed harmonised text

Article 2 (partial)

(*) definitions specific to each EU Ecolabel

(*) "ingoin substances and mixtures" means

- biocides, fragrances, colouring agents, and mixtures thereof, regardless of concentration in the final formulation,

- substances and mixtures intentionally added, by-products and impurities from raw materials, the concentration of which equals or exceeds 0,010% by weight of final formulation,

(*) "undiluted product" means a product that is diluted in water prior to use; (applicable for APC)

(*) "ready-to-use (RTU) product" means a product that should not be diluted in water before use; (applicable for APC)

(*) "concentrated product" means a product that has a "concentrated" claim made by the manufacturer in the sense that less product is to be used for the same function and without dilution; (applicable for LD/DD/HDD)

(*) "primary packaging" means

- for single doses in a wrapper that is intended to be removed before washing, the individual dose wrapping in direct contact with the content and the packaging conceived so as to constitute the smallest sales unit of distribution to the final user or consumer at the point of purchase, including label where applicable; (applicable to DD),

- for all other types of products, packaging conceived so as to constitute the smallest sales unit of distribution to the final user or consumer at the point of purchase in direct contact with the content, including label where applicable; (applicable to LD /DD)

(*) "primary packaging" means packaging conceived so as to constitute the smallest sales unit of distribution to the final user or consumer at the point of purchase in direct contact with the content, including label where applicable; (applicable to IILD/IIDD/HDD/APC)

7.4.3 Rationale and discussion

The harmonisation of terms in the main body of the text aims to simplify and clarify the reading of the different EU Ecolabels concerned. In the case of APCs and HDDs, some definitions have been removed as they are now covered by the Detergents Regulation.

The terms "substances" and "ingoin substances" are proposed to be clarified as "ingoin substances and mixtures" harmonising with the most recently voted criteria documents for industrial and institutional detergent products.

Definitions are proposed to be added to distinguish between "undiluted" and "concentrated" products as, in the current sets of criteria, the usage of "concentrated" and "undiluted" can lead to confusion. In many cases "concentrated" is both used to designate products which should and should not be diluted. For example, there is a mention "concentrated" LDs, etc. that are obviously not meant to ever be diluted but also of "concentrated" APCs that should be diluted before use.

In order to avoid further confusion, the following guidelines are proposed to be applied to detergents EU Ecolabel criteria:

- "concentrated" shall only refer to products that have a "concentrated" claim made by the manufacturer in the sense that less product is to be used for the same function and without dilution (i.e. a concentrated laundry detergents dose should be lower than the dose of a regular laundry detergent). If no "concentrated" specification is made about a product, the limits set out for normal (conventional) products are to be respected.

- "undiluted" shall only refer to products that must be diluted before their intended use (i.e. an undiluted all-purpose cleaner should only be used when the recommended dose is diluted in the amount of water prescribed by the manufacturer). The term for products that should be used without dilution is "ready to use" (RTU).

With these two definitions, it is then possible to have a concentrated undiluted product, which then designates a product for which a lower dose is necessary and that should be diluted before use.

For packaging, two harmonised definitions are proposed. This differentiation is made in order to clarify what constitutes the primary packaging for products that are sold as a main container filled with individually wrapped doses, as this type of product is becoming more and more present on the laundry and dishwasher detergent markets. The criteria text for LD and DD specifies that "If the product has a water-soluble foil intended not to be removed before washing, the foil must be considered to be part of the product formulation in all requirements" therefore it is considered as

part of the product. Thus, only individually wrapped doses with wrapping that is intended to be removed before washing are singled out by the packaging definition. The individual wrappers should be considered for the packaging requirements as they generate domestic waste.

7.5 Measurement thresholds

7.5.1 Background

Measurement thresholds indicate the concentration of ingredients in the product for which documentation of compliance is required. As the ingredients of detergents end up in wastewater after use and are not all removed in wastewater treatment plants, even small quantities can potentially have an impact on ecosystems. In the current sets of criteria, there are two measurement thresholds – 0.010% by weight of the final formulation for the majority of ingredients and a lower threshold defined as "regardless of concentration" or "irrespective of weight" assigned to ingredients such as fragrances and preservatives, with some exceptions. There is no set definition as to what constitutes the minimum requirement for "regardless of concentration" or "irrespective of weight", which has been pointed out by stakeholders having the potential to lead to confusion.

The main differences between the measurement threshold definitions are highlighted in Table 49. The differences in wording are mainly due to the fact that the previous revisions of the sets of criteria were performed two at a time for the detergent group, LD paired with DD, IILD with IIDD, and APC with HDD, and the criteria for rinse-off cosmetics was revised separately. As indicated in the bottom three lines, the each type of ingredient (additives, impurities and the other "normal" substances) is covered slightly differently by the four definitions.

Table 50 shows definitions linked to the ingredients as indicated in other ecolabel schemes. There are no explicit measurement threshold definitions in these schemes but by defining thresholds for impurities and by-products, and when those should be considered, they seem to implicitly require compliance with the criteria for all other substances regardless of weight.

Outside of other ecolabels, measurement thresholds can be found in REACH and CLP requirements. In REACH, the threshold of 0.1% (w/w) is used for substances in articles. CLP defines "relevant ingredients" as those that are present in mixtures in concentrations of 1% (w/w) unless there is a reason to suspect that an ingredient present in smaller concentrations is still relevant for classification purposes.

Table 49 Wording of ingredients, measurement thresholds and compliance with criteria in EU Ecolabel

	LD/DD	IILD/IIDD	APC/HDD	Rinse-off cosmetics
Current wording	<p>Constituent substances the concentration of which exceeds <u>0,010 %</u> by weight of the <u>preparation</u> shall comply with the ecological criteria.</p> <p>For preservatives, colouring agents and fragrance compliance with the criteria is <u>required regardless of their concentration</u> except for criterion 4(b) on excluded or limited substances and mixtures.</p> <p>Ingoing substances are defined as all substances in the product including additives (e.g. preservatives or stabilisers) in the ingredients. Impurities resulting from the raw material production, which are present in concentrations > 0,010 % by weight of the final formulation shall also comply with the criteria.</p> <p>(where "substance" means a chemical element and their compounds in the natural state or obtained by any production process, including any additive necessary to preserve the stability of the products and any impurity deriving from the process used, but excluding any solvent which may be separated without affecting the stability of the substance or changing its composition.)</p>	<p>Compliance with the ecological criteria is required for substances intentionally added, as well as for <u>by-products and impurities from raw materials</u>, the concentration of which equals or exceeds <u>0,010 % by weight of final formulation</u>.</p> <p>For biocides, colouring agents and fragrance compliance with the criteria is <u>required regardless of their concentration</u>.</p> <p>Substances meeting the threshold limit as listed above are hereby referred to as '<u>Ingoing substances</u>'.</p>	<p>All substances in the product, including additives (e.g. preservatives or stabilisers) in the ingredients, of which the concentration exceeds <u>0,010 % by weight of the final formulation</u> shall comply with the EU Ecolabel criteria, except for Criterion 1, where each intentionally added substance should be included, <u>irrespective of its weight</u>. Impurities resulting from the production of the ingredients which are present in concentrations > 0,010 % by weight of the final formulation shall also comply with the criteria.</p> <p>(where "substance" means a chemical element and its compounds in the natural state or obtained by any production process, including any additive necessary to preserve the stability of the product and any impurity deriving from the process used but excluding any solvent, which may be separated without affecting the stability of the substance or changing its composition.)</p>	<p>Compliance with the ecological criteria is required for all ingoing substances, with the exception of <u>compliance with criterion 3(b) and 3(c) for preservatives, colorants and fragrances which is requested when their concentration equals or exceeds 0.010% by weight in the final formulation</u>.</p> <p>(where "<u>ingoin substances</u>" means preservatives, fragrances and colorants, <u>regardless of the concentration</u>, and other substances intentionally added, <u>by-products and impurities from raw materials</u>, the concentration of which equals or exceeds <u>0,010 % by weight of final formulation</u> as defined in Article 2)</p>
Additives (e.g. biocides,	All criteria: "regardless of concentration"	All criteria: "regardless of concentration"	All criteria: 0.010% Except: "irrespective of weight" for	All criteria: "regardless of concentration"

fragrances, colouring agents, stabilisers)	Except: 0.010% for Section (b) of Criterion the content of hazardous substances and mixtures.		Criterion on the toxicity to aquatic organisms.	Except: 0.010% for Criteria 3(b) and 3(c) on hazardous substances and mixtures.
Impurities	All criteria: 0.010%	All criteria: 0.010%	All criteria: 0.010%	All criteria: 0.010%
Rest	All criteria: 0.010%	All criteria: 0.010%	All criteria: 0.010% Except: "irrespective of weight" for Criterion on the toxicity to aquatic organisms.	All criteria: 0.010%

Table 50 Wording linked to ingredients in other ecolabelling schemes

Ecolabel	Measurement threshold definition
Nordic Swan – (similar wording for most product groups)	Unless otherwise specified, the term 'constituent substances' refers to all substances in products, including additives in the raw materials (e.g. preservatives and stabilisers), but not impurities from primary production. Impurities comprise residues from primary production that may be found in the laundry detergent at concentrations below 100 ppm (0.0100% by weight, 100 mg/kg) Substances that are added to an ingredient, deliberately or for a purpose, are not regarded as impurities, regardless of concentration. Impurities at concentrations greater than 1.0% in the ingredient are regarded as constituent substances. Substances/products known to be liberated by a constituent substance are also regarded as constituent substances.
New Zealand Environmental Choice	No clear definition for measurement thresholds is indicated in the criteria documents.
Good Environmental Choice Australia	No clear definition for measurement thresholds is indicated in the criteria documents. Impurities are defined as, "Residual products from primary production that can be found in the product/ingredient in concentrations below 0.010% (100 ppm). Substances that are actively added to an ingredient or product for a particular purpose are not considered to be impurities, irrespective of quantity. Substances/products known to be liberated by an ingredient (e.g. formaldehyde and arylamine) are not considered to be impurities or contaminants." Trace amounts (<100ppm) of certain impurities are exempted from compliance with some criteria.

7.5.2 Proposed harmonised text (to be complemented in each criteria set with appropriate text additions, if necessary):

Article 2

(*) "ingoing substances and mixtures" means

- biocides, fragrances, colouring agents, and mixtures thereof, regardless of concentration in the final formulation,
- other substances and mixtures intentionally added, by-products and impurities from raw materials, the concentration of which equals or exceeds 0,010% by weight of final formulation;

Annex – 1 (b) - Measurement thresholds

Compliance with the ecological criteria is required for all ingoing substances and mixtures, with the exception of compliance with criterion 3(b) and 3(c) for preservatives, colorants and fragrances which is requested when their concentration equals or exceeds 0,010% by weight in the final formulation.

7.5.3 Rationale

Detergent ingredients have been shown to have different levels of impact on the environment. With the specification of a measurement threshold, the competent bodies and applicants know which substances should be taken into account when assessing and verifying a product's compliance for each criterion. As some substances can have impacts even at very low concentrations, the requirements for them to be considered "regardless of concentration" has been kept for criteria such as toxicity to aquatic organisms and biodegradability.

EU Ecolabels require applicants to provide competent bodies with the full formulation of products (indicating trade name, chemical name, CAS number and INCI designations, DID number, the ingoing quantity including and excluding water, the function and the form of all ingredients regardless of concentration). Thus it should be understood that in the definition of "ingoing substances", "regardless of concentration" means that if a substance that is a biocide, fragrance or colouring agent and is on the bill of material, even in quantities lower than 0,010%, it should be considered in criteria compliance calculations.

It was agreed during the revision of the EU Ecolabel on rinse-off cosmetics that on limited substances (criteria 3(b) and 3(c)) shall be required for all ingredients concentration of which exceeds 100 ppm. This is also aligned with the horizontal approach on hazardous substances for formulations.

7.6 Functional unit and reference dosage

The current EU Ecolabel criteria sets indicate in different ways which unit and which reference dosage should be used when calculating compliance with a criterion (Table 51). Some differences are due to the fact that the detergents have different uses but wording can be aligned for similar products. Moreover, the "functional unit" specified in several EU Ecolabels does not actually refer to the functional unit – for example, the functional unit for a laundry detergent is a kilogram of dry laundry to be washed and not grams [of product] per kilogram of laundry. This error in the statement of the functional unit leads to what might appear inconsistencies in some criteria (i.e. for LDs Criterion 1 referenced both "g/kg wash" and "ml/kg wash" when it was stated that the functional unit was "g/kg wash" and could lead one to believe that the "ml/kg wash" was an error).

Table 51 Summary of texts related to functional unit and reference dosage

	LD	IILD	DD	IIDD	APC	HDD
Functional unit	g/kg wash (grams per kilo wash)	g/kg laundry (grams per kilo laundry)	Quantity of product required to wash 12 place settings with a standard soil	g/l washing solution (grams per litre washing solution)	(nothing explicit)	(nothing explicit)
Reference dosage	Quantity recommended by the manufacturer necessary for: - 4.5kg load (heavy duty detergent) - 2.5kg load (low duty detergent)	(nothing explicit)	Quantity necessary for normally soiled dishes and 12 place settings	(nothing explicit)	Quantity necessary for 1l of washing water (undiluted products) or 100g (ready-to-use products).	Quantity necessary for 1l of washing water for normally soiled dishes.

It is proposed to remove the mention of a functional unit and state that the "reference dosage" is used for all calculations, where "reference dosage" always refers to the quantity recommended by the manufacturer for a specific application described in the EU Ecolabel text. It is also proposed to state that if a product is in liquid form, its total chemicals weight (i.e. weight minus the water content) is to be considered. A summary of the changes proposed are included in Table 52. Please refer to each Technical Report for the exact proposed wording for each EU Ecolabel.

Table 52 Summary of changes proposed to texts related to functional units and reference dosage.

LD	IILD	DD	IIDD	APC	HDD
Quantity recommended by the manufacturer to wash 1kg of dry laundry (based on the dosage recommender for: - 4,5kg load (heavy duty detergent) - 2,5kg load (low duty detergent)), for stain removers - 2,7ml/kg of dry laundry (based on 2 ml per application and 6 applications per wash-load of 4,5 kg)	Quantity recommended by the manufacturer to wash 1kg of dry laundry	Quantity recommended by the manufacturer to wash normally soiled dishes and 12 place settings, 3ml for rinse aids	Quantity recommended by the manufacturer for 1l of washing solution	Quantity recommended by the manufacturer for 1l of washing water (undiluted products) or 100g (ready-to-use products)	Quantity recommended by the manufacturer for 1l of washing water for normally soiled dishes.

7.7 Water hardness and water temperature

7.7.1 Water hardness

Water hardness is referenced in all detergent EU Ecolabels although it does not directly intervene in all criteria. In some it is referenced in °dH (deutsche Härte, degree of General Hardness) and in others in mmol CaCO₃/l. As the Detergents Regulations refers to water hardness in mmol CaCO₃/l, this unit is proposed to be consistently used throughout the concerned EU Ecolabels.

The Detergents Regulation specifies that 2,5 mmol CaCO₃/l is considered to be medium water hardness. The levels of soft and hard water are not explicitly cited. Nevertheless the commonly agreed upon thresholds for water hardness throughout Europe (as found in the German detergents and cleansing agents act⁷⁷) are indicated in Table 53.

Table 53 Classification of water hardness ranges according to the German Washing and Cleansing Agents Act.

Water hardness	mmol CaCO ₃ /l	Equivalent °dH
Soft	< 1,5	< 8,4
Medium	1,5 – 2,5	8,4 – 14
Hard	> 2,5	> 14

In the EU Ecolabels for industrial and institutional laundry and dishwasher detergents, compliance with several criteria is to be calculated based on the water hardness of the water that is used during the washing. It is not specified how this water hardness is to be determined as in many cases industrial and institutional set ups have water softening components, as washing in soft water necessitates less detergent, and the water inside the washing machine does not correspond to the water coming in from the utilities supplier. Moreover, the current thresholds for water hardness indicated in these two EU Ecolabels (0-6°dH, 7-13°dH, and >14°dH) do not correspond to the ones commonly found in European documents (Table 53). Thus it is proposed to remove the indications of water hardness ranges and state values at water of medium hardness.

Consultation questions	
1	Should values be revised in order to reflect this change in water hardness ranges?

7.7.2 Water temperature

Water temperature represents an important part of the total environmental impacts attributed to detergents, as hot water is often used during the use phase (see LCA results in Section 4 of Preliminary Reports). According to LCA performed as part of this revision work, the environmental impacts due to the heating of water can be reduced either by choosing a cleaner energy source to heat up the water or reducing the water temperature.

7.7.2.1 Background information

Influencing the choice of the energy source used for water heating is not in the hands of the EU Ecolabel scheme. The EU Ecolabel scheme can, to some extent, influence the water temperature used during the use phase and this aspect is discussed in this section.

⁷⁷ Gesetz über die Umweltverträglichkeit von Wasch- und Reinigungsmitteln (Wasch- und Reinigungsmittelgesetz – WRMG). Date of text: 29 April 2007. Bundesgesetzblatt, Part I, No. 17, 4 May 2007, pp. 600-603.

All detergents are not equal when it comes to water temperature as some claim that can be effectively used with cold water (eg rinsing off certain all-purpose cleaners) while others require high temperatures to fulfil their function (eg washing hospital linen using industrial and institutional laundry detergent). Recent market trends indicate that some products that have been traditionally used at high temperatures (consumer laundry detergents) are now being developed to be used at cold and low water temperatures and are becoming more popular among users. However, even if there is a trend for producer to develop products that are effective at low temperatures, this does not guarantee that a lower washing temperature will be used as this largely depends on user behaviour. The users are the ones responsible for correctly using the products and those that take the ultimate decision of whether warm water will be used or not.

Influencing user behaviour is very complex, as the decisions made by users are both conscious and unconscious (i.e. culture, traditions, perceptions, etc.). A deep knowledge of the reasons of why users make the decisions they make and a good comprehension of the context of user behaviour are required to design EU Ecolabel requirements that address this issue. Some of the factors that can be influenced and that determine user behaviour include:

- the knowledge and the preconceptions of the need to use hot water to get good washing performances,
- the socio-cultural factors and traditions that influence a user's behaviour and choices,
- the economic factors linked to a purchase: the detergent market is driven by brand-fidelity or by price. Subsidising or reducing the price of those products with a better environmental performance would influence purchase decisions.

Regarding the whole life-cycle of the product, the success of an initiative towards an efficient use of the product depends on the collaboration, the acceptance and the commitment of all the actors involved. Considering this analysis, the activities can be ranked under these general themes listed below:

a) Technological excellence

The producers should ensure and demonstrate that the product is effective at lower temperatures in order to build up the confidence of users in low temperature products.

a) Education, training, information and communication

Information must be available to generate awareness of the environmental impacts caused as well as of the potential alternative behaviours, to make the audience responsive to efforts to change behaviour.

Information, education, training and communication should remove barriers to behavioural change and encourage and reinforce positive behaviour. People more easily change habits when they understand the stakes from a personal point of view, know the repercussions of any choice and know that they do not undergo disadvantages (e.g., they will get a surface as clean using cold water as with warmer water).

For example, AISE has launched the "I prefer 30"⁷⁸ campaign to promote washing at lower temperatures among users by providing easy-to-understand information on the impacts washing temperature has on the longevity of materials and on the associated environmental benefits.

⁷⁸ For more details see: <http://www.iprefer30.eu/>

c) Technical assistance

A technical assistance can provide the users with accurate information as well as help them identifying the biggest impacts on their habits (water temperature and energy use related), set reachable objectives in energy use and water consumption and diffuse appropriate advices and messages. This type of service is not yet at all ubiquitous but in certain cases, such as in industrial and institutional settings, it could be set up without many further efforts.

For example, in the case of the EU Ecolabel, such technical assistance can be of especial interest in the case of industrial and institutional products as well as for "Cleaning services".

d) Incentives and dissuasion.

In a private sphere, the primary beneficiary of an energy efficient behaviour (washing at low temperatures) is usually the individual making the change or the immediate family of the individual. In contrast, in an industrial and institutional sphere, the primary beneficiary may be the owner of the building or facility or the tender of the service.

Behavioural change can be encouraged through using incentives to promote the desirable behaviours and deterrents to discourage unwanted behaviours. Incentives and deterrents can be financial and non-financial. Reducing or subsidising the cost or price of lower temperature efficient products and raising awareness of the monetary savings due to the use of cold / tap water are among the easiest measures to implement. Nevertheless, apart from providing information on potential monetary savings, little can be done under the EU Ecolabel framework.

In the current EU Ecolabels related to detergents, water temperature is considered in several ways (Table 54). In the current criteria, water temperature is mainly tackled through suggestions made in the criteria on user information, although the EU Ecolabel for laundry detergents also has a criterion that favours detergents that the manufacturers claim are effective at low temperatures (Criterion 7 "Points").

Table 54 Water temperature indications in the different EU Ecolabel criteria

	Water temperature indications
LD	C6: Washing performance (fitness for use): the testing is to be done at a maximum of 30C (in accordance with the revised performance test from 20/06/2014). C7: Points: products much obtain a minimum of 3 points and points are obtained based on their efficiency in cold water, their maximum dosage, their CDV values and how they fare in terms of biodegradability. C8: Consumer information: there is a recommendation stating, "Wash at the lowest possible temperature".
IILD	C6: Washing performance (fitness for use): the testing is to be done at the lowest recommended wash temperature. C8: Consumer information: there is a recommendation stating, "Wash at the lowest possible temperature".
DD	C5: Washing performance (fitness for use): the tests shall be carried out at 55°C ± 2°C (or at a lower temperature if the detergent claims to be efficient at a temperature below 55°C) with cold pre-wash without detergent. C7: Consumer information: "The following text (or equivalent) shall appear on or in the product: 'This Ecolabelled detergent works well at low temperatures (8). Select low temperature washing cycles on the dishwasher, wash full loads and do not exceed the recommended dosage. This will minimise both energy and water consumption and reduce water pollution."
IIDD	C5: Washing performance (fitness for use): the testing shall be done at the lowest recommended temperature.
APC	No water temperature indications.
HDD	No water temperature indications.

Similar approaches have been adopted in other ecolabelling schemes, as shows in Table 55. It can be observed that for cleaning products (APC), a recommendation to use cold water for dilutions is often included.

Table 55 Water temperature indications in different ecolabelling schemes and other voluntary agreements

Product group (scheme or agreement)	Water temperature indications
Laundry detergents and stain removers (Nordic Swan)	Colour safe detergents must be tested at 30 °C, all other detergents must be efficient at 40 °C or below (tests performed at 40C and 30C, depending on the type of detergent). The following indication must appear on all detergents, "Reduce the temperature of your normal wash programmes to safeguard the environment."
Laundry detergents for professional use (Nordic Swan)	There are two sets of requirements, one for detergents that are to be used at 30-40C and those that are to be used at 40-60C. CDV limits, the amount of phosphonates allowed and the washing performance tests are different in the two sets of requirements, the ones for 40-60C detergents are stricter in terms of CDV limits and amount of phosphonates allowed.
Laundry detergents (New Zealand)	The following indication must appear on packaging: "Use the lowest recommended temperature."
Floor cleaners/Commercial and institutional cleaners	"Dilution from the cold tap shall be recommended."
Cleaning Products for Household Use (USA – Green Seal)	"Each product as used, when diluted with water from the cold tap at no more than 50F, shall clean common soils and surfaces in its category effectively, as measured by a standard test method." (50F = 10C) The label shall state that "dilution with water from the cold tap is recommended."
Laundry detergents (USA – Green Seal)	The benchmark product shall be tested at 32 +/-1C. The product to be ecolabelled shall be tested at 27 +/-3C.

7.7.2.2 Water temperature in this revision

In this revision of the EU Ecolabels related to detergents, it is proposed to tackle the question of water temperature through communication and the availability of high quality products efficient at low temperatures.

Where appropriate, the criterion "Fitness for use" is proposed to require that tests are performed the tests at temperatures that are lower than commonly used by users in the case of consumer products and at the lowest temperature recommended by the manufacturer in the case of industrial and institutional products. For example, in the case of consumer laundry detergents, the average washing temperatures across Europe is of 41C⁷⁹ and it is proposed to require all tests to be performed at 30C or lower, if the manufacturer claims that the detergent is effective at lower temperatures. Through such requirements, the EU Ecolabel can promote products that are truly effective at lower temperatures and contribute to convincing users that they can, indeed, save energy and money by using less hot water. This would create a positive attitude towards low/cold temperature products and increase their use. More information on the proposed changes can be found in the respective Technical Reports.

Furthermore, the criterion "User information" is proposed to indicate statements related to water temperatures and recommendations to wash and use water at the lowest suitable temperature. This type of information is a direct point of contact between the user and the EU Ecolabel and is the best way the EU Ecolabel can influence user behaviour. While this approach only has a limited reach and requires the user to read, understand and follow instructions, it is important to improve the environmental education of consumers. Creative signs and slogans can also be developed to catch the attention of users and create a break in their routine. For example a large bucket with "cold water" written on it might cause a

⁷⁹ AISE I Prefer 30 substantiation dossier – June 2013

person to consider using cold water for floor cleaning instead of always turning to warm water.

A specific criterion addressing possible producers' claims on low temperature washing is not proposed to be set in this EU Ecolabel revision. Instead of that, a combination of the requirements included into two criteria is proposed to encourage low temperature washing: the "Fitness for use" criterion is proposed to be used to ensure that a product is effective a low temperatures and the "User information" criterion is proposed to communicate the effectiveness of the product as well as the associated environmental impacts. Thus, for consumer laundry detergents, Criterion 7 ("Points") would be removed.

Table 56 explains in detail how each EU Ecolabel criteria set under revision is tackling this issue.

Table 56 Revised criteria related to water temperature in the current EU Ecolabel revisions

Product group	Water temperature indications
Consumer laundry detergents	<p>Criteria requirements</p> <p>"Fitness for use": testing of the products should be performed at 15-30C depending on the product or at a lower temperature if the producer claims the product is effective.</p> <p>"User information": includes the following recommendations:</p> <ul style="list-style-type: none"> - wash at the lowest suitable temperature - wash full loads <p>Information about the environmental impacts due to the use of the laundry detergent is also included on the packaging urging the consumer act in a more environmentally responsible way.</p>
	<p>Reasoning:</p> <p>The average washing temperature in Europe for consumer laundry detergents is 41C, only slightly higher than the standard temperature (40C) commonly used to test the products. In this revision we propose to test the products at temperatures between 15 and 30C, depending on the type of product, ensuring that the detergent will be effective with colder water. Most of the washing machines include a program that is able to wash with low temperature, if not cold, water.</p> <p>The information given to the consumers is key in this EU Ecolabel criteria set. It is required that the user information is displayed on the packaging in a legible and visible way and that includes recommendation regarding the washing temperature, the loads and the environmental impacts due to the use of detergents.</p>
Industrial and institutional laundry detergents	<p>Criteria requirements</p> <p>"Fitness for use": testing of the product should be performed at the lowest temperature recommended by the manufacturer. Due to the large variety of products and intended uses, it is difficult to set benchmarks for testing temperatures.</p> <p>"User information": includes the following recommendations:</p> <ul style="list-style-type: none"> - wash at the lowest suitable temperature - wash full loads <p>Information about the environmental impacts due to the use of the laundry detergent is also included on the packaging urging the consumer act in a more environmentally responsible way.</p>
	<p>Reasoning:</p> <p>The average washing temperature for industrial and institutional laundry detergents varies depending on the intended use of the detergent (i.e., it will be different for bed lines, towels, working cloths or uniforms, etc.) A standard washing temperature is thus difficult to set. For this reason, the fitness for use criteria proposes to test the product at the lowest temperature the producer recommends and at which they claim the product to be effective.</p> <p>User information is a powerful tool to make the user aware of the environmental impacts and possible savings that can be achieved if the washing temperature is reduced. Recommendations on low washing temperatures, full wash loads and indications on the environmental impacts due to the use of detergents aim at changing user behaviour and at encouraging environmental friendlier decisions.</p>

Consumer dishwasher detergents	<p>Criteria requirements</p> <p>"Fitness for use": testing of the product should be performed at 50C (-/+ 2C) or at a lower temperature if the detergent claims to be effective at a temperature below 50C with cold pre-wash without detergent.</p> <p>"User information": includes the following recommendation:</p> <ul style="list-style-type: none"> - wash at the lowest suitable temperature - wash full loads <p>Information about the environmental impacts due to the use of the dishwasher detergent is also included on the packaging urging the consumer act in a more environmentally responsible way.</p>
	<p>Reasoning:</p> <p>The average consumer dishwasher temperature varies between 55 and 75C and the European average washing temperature is close to 60C.⁸⁰ In this revision the testing temperature of the products is proposed to be lowered to 50C (it is currently at 55C) as there is evidence that good performances can be achieved at lower temperatures due to improvements in detergents and dishwashers. Nowadays, most of best environmental performing dishwashers on the market (rated AAA)⁸¹ include "ecological" programs washing at 45C, a sign that the dishwasher market is evolving in this direction.</p> <p>User information is a powerful tool to make the user aware of the environmental impacts and possible savings that can be achieved if the washing temperature is reduced. Recommendations on low washing temperatures, full wash loads and indications on the environmental impacts due to the use of the detergent aim at changing the user behaviour and at encouraging environmental friendlier decisions.</p>
Industrial and institutional dishwasher detergents	<p>Criteria requirements</p> <p>"Fitness for use": testing of the product should be done at the lowest washing temperature recommended by the producer. Due to the large variety of products and intended uses, it is difficult to set benchmarks for testing temperatures.</p> <p>"User information": includes the following recommendation:</p> <ul style="list-style-type: none"> - wash at the lowest suitable temperature - wash full loads <p>Information about the environmental impacts due to the use of the dishwasher detergent is also included on the packaging urging the consumer act in a more environmentally responsible way.</p>
	<p>Reasoning:</p> <p>The average washing temperature for industrial and institutional dishwasher detergents varies from 65 to 71C, depending on the intended use, and a final rinse off is conducted at an average temperature of 82C. This high temperature rinse-off can be avoided if a chemical sanitizer is used. A standard washing temperature is thus difficult to set. For this reason, the fitness for use criteria proposes to test the product at the lowest temperature the producer recommends and at which they claim the product to be effective.</p> <p>User information is a powerful tool to make the user aware of the environmental impacts and possible savings that can be achieved if the washing temperature is reduced. Recommendations on low washing temperatures, full wash loads and the environmental impacts due to the use of the detergent aim at changing the user behaviour encouraging environmental friendlier decisions.</p>
Cleaning products	<p>Criteria requirements</p> <p>"Fitness for use": testing of the products should be performed under realistic use conditions. Due to the variety of cleaning products included in this product group, the different use conditions and the low relevance of the water use in this product group in general, it was decided not to set a testing temperature</p> <p>"User information": encourages users to use cold tap water for diluting products.</p> <p>Information about the environmental impacts due to the use of the detergent is also included on the packaging urging the consumer act in a more environmentally responsible way.</p>

⁸⁰ Preparatory studies for ecodesign requirements of EuPs, LOT 14 Domestic washing machines and dishwashers, task 1 and 2, available at http://www.ebpg.bam.de/de/ebpg_medien/014_studyf_08-12_part1-2.pdf

⁸¹ Information sources by revising several dishwasher producer's websites such as: <http://www.candy-domestic.co.uk/products/?catid=4>, <http://www.miele.co.uk/dishwashers/> and <http://www.siemens-home.co.uk/our-products/dishwashers/full-size-dishwashers.html>

	<p>Reasoning:</p> <p>The amount and temperature of the water used with cleaning products intended to clean surfaces, floors, windows or kitchen and sanitary installations is not as relevant as in the other detergent products. Water is mainly used for diluting and most of the producers do recommend using wipes or mops and not the use of excessive water. Even so, the recommendation to dilute the cleaning product, if needed, with cold tap water can help reduce environmental impacts.</p> <p>Thus, the main water temperature information is proposed to be included in the "User information", which is to be displayed on the packaging in a legible and visible manner.</p>
Hand dishwasher detergents	<p>Criteria requirements</p> <p>"Fitness for use": testing of the products should be performed under realistic use conditions. No specific water temperature is indicated for the tests but the same water temperature should be used throughout the duration of the testing.</p> <p>"User information" encourages users to use the lowest amount of water at the lowest temperature.</p> <p>Information about the environmental impacts due to the use of the detergent is also included on the packaging urging the consumer act in a more environmentally responsible way.</p>
	<p>Reasoning:</p> <p>The temperature of the water used for washing up strongly depends on the preferences and tolerances of the users. On average, hand dishwashing is performed with hot water but habits greatly vary throughout Europe⁸². The temperature is, generally speaking, hot enough so that it is not uncomfortable for user's bare hands to be submerged for very long. Human hands tolerate water temperatures up to approx. 45C (slightly higher if dishwashing gloves are used). Additionally, anecdotal evidence suggests high water temperature is generally considered of importance when rinsing dishes, going up to an average of 75C, in order to shorten air drying time and reducing streak and spots⁸³.</p> <p>Thus no specific testing temperature is set but rather the temperature most adapted to the market where a product is sold should be considered.</p> <p>User information recommends to use the lowest amount of water, what really matters from the environmental point of view for this product group, at the lowest suitable temperature. As the water temperature strongly depends on user preferences and tolerances, no benchmarks have been included.</p>

Consultation questions

1	<p>Are the requirements proposed to be included in the "Fitness for use" and "User information" criteria a suitable way of targeting the impacts related to washing temperatures? Should any other requirement be set related to water temperature?</p>
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⁸² Stamminger, R., Elschenbroich, A., Rummler, B. & Broil, G. (2007a) Washing-up behaviour and techniques in Europe. *Hauswirtschaft und Wissenschaft*, 1, 31–37.

⁸³ <http://housekeeping.about.com/od/dishes/qt/dishwatertemp.htm>

7.8 Toxicity to aquatic organisms

To a greater or lesser extent, the active ingredients used in detergents have an impact on the aquatic fauna and flora during their entire life cycle. Since detergent wastewaters are ultimately disposed to the aquatic environment – preferably via water treatment facilities – a consideration of the impact of the substances released is necessary.

7.8.1 Assessment of toxicity to aquatic organisms

Several methods can be used to estimate the toxicity to aquatic organisms, such as CDV, USEtox, and others (i.e. see list of LCA-based ecotoxicity assessment methods p. 78 of ILCD Handbook: Recommendations for Life Cycle Impact Assessment in the European Context⁸⁴). Each method relies on different principles and assumptions, thus providing different results. In the current versions of the EU Ecolabels related to detergents, CDV is used. During the revision process, the possibility of using of USEtox for toxicity to aquatic organisms was asked to be reviewed by stakeholders.

CDV is currently used by six EU Ecolabel criteria for detergents, one EU Ecolabel criteria for rinse-off cosmetic products and several criteria of the Nordic Swan and French NF Environnement ecolabels, among others, to evaluate toxicity to aquatic organisms. It is a method that was developed specifically to be used in the scope of ecolabelling and is, as such, based on a pass/fail assessment. It makes heavy use of the precautionary principle for substances where data is lacking or of bad quality to make sure that the most sensitive species are protected and there is currently no information on the uncertainty linked to results obtained. Data on over 200 of the most common substances found in detergents and cosmetics are stored in the Detergents Ingredients Database (DID) list that is regularly updated. For substances that are not found in the DID list, an applicant must provide data to fill in two parameters – one linked to ready biodegradability and one linked to chronic toxicity. When chronic toxicity information is limited, acute results may be used but with the application of heavy safety factors to align with the precautionary principle.

USEtox is a model that was developed to bring scientific consensus on human toxicity and freshwater ecotoxicity indicators used in LCA and is recommended by the ILCD handbook for midpoint analysis for freshwater ecotoxicity. Currently it is mainly applied in academic work and in the scope of the French informative environmental labelling scheme, "Affichage Environnemental", which aims to provide environmental impact information on products for customers to be able to compare products and make more environmentally responsible choices during their shopping. Large databases of over 3000 entries exist that cover multiple fields and a specific database has been developed to cover substances that are found in the DID list, although the quality of the data contained in these databases varies. If a substance is not found in a database, its data can be calculated by providing fifteen parameters ranging from molecular weight to degradation rates and partitioning coefficients. The data from the databases has also been implemented in LCA software such as SimaPro and GaBi. Uncertainty of results has been found to be in the range of 10-100 (2 orders of magnitude) for freshwater ecotoxicity and to be highly dependent on the type of substance assessed, with data linked to inorganics often lacking in quality.

Peer reviewed comparisons of CDV and USEtox are limited but show that overall results are similar and differences are mainly due to the fact that the two methods take different approaches to calculating environmental impacts. Overall, both methods have been developed with different goals in mind and have different uses. While the CDV method has been applied in the scope of labelling since 1995 and widely used by industry and competent bodies, USEtox has been mainly applied in academia.

⁸⁴ JRC - IES 2011. ILCD Handbook: Recommendations for Life Cycle Impact Assessment in the European context. First edition ed.: European Commission.

Table 57 Main characteristics of CDV and USEtox

	CDV	USEtox
Coverage	Biodegradability and toxicity to aquatic organisms	Freshwater ecotoxicity (ecological effect, fate in the environment, exposure) and human health
Life cycle coverage	Only considers the ecotoxicity of the substances in the product as they are at the time of production of the final product	Life cycle oriented approach
Goal	Pass/fail assessment in the scope of ecolabelling	Indicators to be used as part of LCA studies
Vision	Conservative (applies the principle of precaution by aligning results on those of the most sensitive species and large SFs where data is lacking)	Moderate (considers the mean chronic/acute data for all species and does not apply an equivalent of SFs)
Past and current applications	Widely used in the industry sector and by the competent bodies since 1995 when it was introduced in the EU Ecolabel for laundry.	Used in academia and informative environmental labelling, eg. French "affichage environmental" scheme since 2010 No applications in the scope of labelling
Database	DID list (200+ detergent-centric substances)	USEtox WG database (3000+ entries, all fields), CyclEco database (includes information on all DID list entries)
Revision of the database	Updated regularly with input from stakeholders and experts in the field Last updating in 2012 that lasted for 18months	No information on updates and how updated information is assessed
Thresholds establishment to be applied in pass/fail schemes	Already established depending on the type of products	To be established based on product formulations on the market
Calculation of results for substances not present in databases	2 parameters (gathering and review time: unknown)	15 parameters (gathering and review time: 1 hour/substance) Indications are needed to easily calculate CFs by users and competent bodies
Data sources	Existing databases, scientific literature, laboratory and <i>in silico</i> test results	Existing databases, scientific literature, laboratory and <i>in silico</i> test results
Uncertainty of results	Unknown	2-3 orders of magnitude of ecotoxicity Should new CFs be calculated, indications on how to limit the uncertainty of results are needed.
Endorsement	EU Ecolabel, Nordic Swan, NF Environnement criteria	UNEP-SETAC, recommended by ILCD for midpoint evaluation for freshwater ecotoxicity
Appears in	Spreadsheet	Spreadsheet, LCA software (SimaPro, GaBi, etc.)
Linked scientific literature	Very limited	Abundant

Further information on the two methods, as well as linked databases, can be found in the appended report.

7.8.2 Proposed common template for criteria

Criterion X – "Toxicity to aquatic organisms"

The critical dilution volume (CDV) of the product must not exceed the following limits for the reference dosage:

Product type	Limit CDV
Type of product covered	xx xxx

Assessment and verification: Calculation of the CDV of the product. A spreadsheet for calculation of the CDV value is available on the EU Ecolabel website.

The Critical Dilution Volume (CDV) is calculated for all ingoing substances and mixtures (i) in the product using the following equation:

$$CDV = \sum CDV(i) = 1000 \cdot \sum dosage(i) \cdot \frac{DF(i)}{TF(i)}$$

Where:

dosage(i): weight (g) of the substance or mixture *i* in the reference dose,

DF(i): degradation factor for the substance or mixture *i*

TF(i): toxicity factor for the substance or mixture *i*

The values of *DF(i)* and *TF(i)* shall be as given in the DID list Part A (Appendix I). If a substance or mixture is not included in the DID list Part A, the applicant shall estimate the values follow the approach described in the DID list Part B (Appendix I).

7.8.3 Rationale

CDV is proposed, for the moment, to be kept as the toxicity to aquatic organisms assessment method in EU Ecolabels related to detergents. The use of another ecotoxicity assessment method was suggested, more specifically USEtox, during stakeholder consultation but at the time of writing this report not enough data was available on the applicability of USEtox in the scope EU Ecolabels and on thresholds that could be set for all product groups concerned. After the results of the Product Environmental Footprint pilot study on detergents will be released, the feasibility of including aquatic toxicity requirements in the EU Ecolabel criteria based on the USEtox method will be assessed. To discuss the results obtained during the application of USEtox in the scope of PEFs and the scope of its current status and future developments, DG ENV is organising a meeting on the "Current and future implementability of USEtox" that will take place on January 15th, 2015. Outcomes related to the EU Ecolabel will be presented at the 1st AHWG meeting.

The proposed harmonised text states that the CDV value is to be calculated for the reference dosage and specific CDV values are proposed for each product type covered by the specific EU Ecolabel in question.

The proposed harmonised "assessment and verification" text includes the expression "all ingoing substances or mixtures" to be defined in the main text of the EU Ecolabels and that would set the measurement thresholds for the ingredients that must be considered when calculating a product's CDV value.

Each set of criteria contains revised CDV threshold values and these can be found, along with supporting data, in the individual technical reports. Overall, three main types of data were considered during the revision – CDV values of detergents currently available on the market (although largely skewed towards ecolabelled products because this type of data is more readily available from competent bodies and testing institutes), stakeholder input and updates to the DID list (that might cause CDV values to be different).

7.9 Biodegradability

7.9.1 Background on biodegradability of detergents

The technical analysis⁸⁵ showed that detergent ingredients and related impacts, particularly on the aquatic environment, are of high importance for these product groups as after the use the product is discharged to the aquatic environment (ideally after going through a wastewater treatment process).

In accordance with the CLP regulation⁸⁶ the basic elements used for classification of aquatic environmental impacts are:

- Acute aquatic toxicity;
- Potential for or actual bioaccumulation;
- Degradation (biotic or abiotic) for organic chemicals;
- Chronic aquatic toxicity.

Chemicals that degrade rapidly can be quickly removed from the environment, while in the absence of fast degradation a substance present in the aquatic environment has the potential to exert toxicity over a wide temporal and spatial scale. Thus, limiting the amount of substances in products that are not biodegradable should be a general requirement for EU Ecolabel detergents.

Under the Detergents Regulation, ready biodegradability of surfactants is required for products sold on the European market. However, the Regulation does not outline requirements for anaerobic biodegradability of surfactants, or the biodegradability of non-surfactant organics.

The Detergents Regulation⁸⁷ distinguishes:

- 'Primary biodegradation', i.e. *the structural change (transformation) of a surfactant by micro-organisms resulting in the loss of its surface-active properties due to the degradation of the parent substance and consequential loss of the surface-active property as measured by test methods listed in Annex II.*
- 'Ultimate aerobic biodegradation', i.e. *the level of biodegradation achieved when the surfactant is totally used by micro-organisms in the presence of oxygen resulting in its breakdown to carbon dioxide, water and mineral salts of any other elements present (mineralisation), as measured by test methods listed in Annex III, and new microbial cellular constituents (biomass).*

The requirements for biodegradability vary for the different EU Ecolabel detergent product groups, as summarised in Table 58.

⁸⁵ See respective preliminary reports.

⁸⁶ Regulation 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006, available online at: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:353:0001:1355:EN:PDF>.

⁸⁷ Regulation (EC) No 648/2004 of the European Parliament and of the Council of 31 March 2004 on detergents, available online at: <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02004R0648-20120419&qid=1406037728667&from=EN>.

Table 58 Comparison of biodegradability requirements in EU Ecolabels related to detergent product groups

	Surfactants must be aNBO	Surfactants must be anNBO	Limits on aNBO of organics	Limits on anNBO of organics
DD			X	X
LD			X separately for liquid and powder products	X separately for liquid and powder products
IILD	X	Non-ionic and cationic surfactants only	X separately for soft, medium and hard water	X separately for soft, medium and hard water
IIDD	X	X	X separately for soft, medium and hard water	X separately for soft, medium and hard water
HDD	X	Surfactants that are not biodegradable under anaerobic conditions may be used in the product provided that the surfactants are not classified with H400/R50 (Very toxic to aquatic life) within the limit specified.		
APC	X	Surfactants not biodegradable under anaerobic conditions may be used in the product within specified limitations provided that they are not classified with H400/R50 (Very toxic to aquatic life)		

It can be seen that, in principle, three different approaches are used for the above product groups, depending on the time of the criteria development, revisions and linked consultation processes. The requirements for industrial and institutional detergents are the most restrictive as they cover both surfactants and organics. They are also the most recent ones. Requirements of other ecolabels for various detergents and cleaning product groups are presented in their respective preliminary reports. Table 59 and Table 60 briefly summarises those requirements.

It can be seen that different labels also differently regulate the use of anaerobically degradable ingredients. For instance, New Zealand Environmental Choice label asks that all surfactants must be readily biodegradable and anaerobically degradable. Nordic Swan and Bra Miljöval (Good Environmental Choice) take differentiated approaches. For example in the case of laundry detergents restrictions are put on the amount of non-anaerobically degradable organic substances, while for other product groups their approaches differ.

Table 59 Requirements on biodegradability for LD, DD and HDD in EU Ecolabel and other schemes

EU Ecolabel	Nordic Swan	Environmental Choice New Zealand	Bra Miljöval (Good Environmental Choice)																																																
Laundry detergents																																																			
<p>The content of organic substances in the product that are aerobically non-biodegradable (aNBO) or anaerobically non-biodegradable (anNBO) shall not exceed the following limits:</p> <table border="1"> <thead> <tr> <th>Product type</th> <th>aNBO (g/kg wash)</th> </tr> </thead> <tbody> <tr> <td>Heavy-duty LD - Powder</td> <td>1.00</td> </tr> <tr> <td>Heavy-duty LD - Liquid</td> <td>0.55</td> </tr> <tr> <td>Low-duty LD - Powder</td> <td>0.55</td> </tr> <tr> <td>Low-duty LD - Liquid</td> <td>0.30</td> </tr> <tr> <td>Stain-remover pre-treatment - powder</td> <td>0.10</td> </tr> <tr> <td>Stain-remover pre-treatment - liquid</td> <td>0.10</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Product type</th> <th>anNBO (g/kg wash)</th> </tr> </thead> <tbody> <tr> <td>Heavy-duty LD - Powder</td> <td>1.30</td> </tr> <tr> <td>Heavy-duty LD - Liquid</td> <td>0.70</td> </tr> <tr> <td>Low-duty LD - Powder</td> <td>0.55</td> </tr> <tr> <td>Low-duty LD - Liquid</td> <td>0.30</td> </tr> <tr> <td>Stain-remover pre-treatment - powder</td> <td>0.10</td> </tr> <tr> <td>Stain-remover pre-treatment - liquid</td> <td>0.10</td> </tr> </tbody> </table>	Product type	aNBO (g/kg wash)	Heavy-duty LD - Powder	1.00	Heavy-duty LD - Liquid	0.55	Low-duty LD - Powder	0.55	Low-duty LD - Liquid	0.30	Stain-remover pre-treatment - powder	0.10	Stain-remover pre-treatment - liquid	0.10	Product type	anNBO (g/kg wash)	Heavy-duty LD - Powder	1.30	Heavy-duty LD - Liquid	0.70	Low-duty LD - Powder	0.55	Low-duty LD - Liquid	0.30	Stain-remover pre-treatment - powder	0.10	Stain-remover pre-treatment - liquid	0.10	<p>The content of organic substances that are aerobically non-biodegradable (aNBO) and/or anaerobically non-biodegradable (anNBO) must not exceed the following limits:</p> <table border="1"> <thead> <tr> <th>Product type</th> <th>aNBO (g/kg wash)</th> </tr> </thead> <tbody> <tr> <td>Heavy-duty LD (normally soiled)</td> <td>1.00</td> </tr> <tr> <td>Low-duty LD (lightly soiled)</td> <td>0.50</td> </tr> <tr> <td>Stain-removers (in-wash)</td> <td>0.20</td> </tr> <tr> <td>Stain-removers (pre-treatment)</td> <td>0.10</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Product type</th> <th>anNBO (g/kg wash)</th> </tr> </thead> <tbody> <tr> <td>Heavy-duty LD (normally soiled)</td> <td>1.00</td> </tr> <tr> <td>Low-duty LD (lightly soiled)</td> <td>0.50</td> </tr> <tr> <td>Stain-removers (in-wash)</td> <td>0.20</td> </tr> <tr> <td>Stain-removers (pre-treatment)</td> <td>0.10</td> </tr> </tbody> </table>	Product type	aNBO (g/kg wash)	Heavy-duty LD (normally soiled)	1.00	Low-duty LD (lightly soiled)	0.50	Stain-removers (in-wash)	0.20	Stain-removers (pre-treatment)	0.10	Product type	anNBO (g/kg wash)	Heavy-duty LD (normally soiled)	1.00	Low-duty LD (lightly soiled)	0.50	Stain-removers (in-wash)	0.20	Stain-removers (pre-treatment)	0.10	<p>All surfactants must be readily biodegradable and anaerobically degradable.</p>	<p>Organic ingredients must be readily bio-degradable in accordance with OECD 301 or an equivalent test. Organic ingredients must be 60 % anaerobically biodegradable in accordance with ISO 11734 or an equivalent test. Ingredients that are not fully biodegradable in accordance with OECD 302 must not exceed a total concentration of 2 % by weight. (additional requirement for laundry detergents) Preservatives, thickening agents/dissolving agents, bleaching agents and acids must be readily biodegradable according to OECD 301 or an equivalent test.</p>
Product type	aNBO (g/kg wash)																																																		
Heavy-duty LD - Powder	1.00																																																		
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Dishwasher detergents

The content of organic substances in the product that are aerobically non-biodegradable (not readily biodegradable aNBO) or anaerobically non-biodegradable (anNBO) shall not exceed the following limits:

Product type	aNBO	anNBO
Dishwasher detergents	1.0 g/wash	5.50 g/wash
Rinse aid	0.15 g/wash	0.50 g/wash

All surfactants must be readily biodegradable (aerobically). All surfactants classified as environmentally hazardous (with H410, H411, H412, H413) must also be anaerobically degradable.

All surfactants must be readily biodegradable and anaerobically degradable.

Surfactants must be readily biodegradable. Surfactants must be 60 % anaerobically biodegradable. Surfactants must have a very low residual content of organohalogen compounds – below 100 mg/kg Tox. Surfactants must not be very toxic to aquatic organisms. Surfactants must not be classified as R50, very toxic to aquatic organisms.

Hand dishwashing detergents

Each surfactant used in the product shall be readily biodegradable. Surfactants that are not biodegradable under anaerobic conditions may be used in the product provided that the surfactants are not classified with H400/R50 (Very toxic to aquatic life) and that the total weight of such anaerobically non-biodegradable surfactants do not exceed 0.20 g of the recommended dose expressed for 1 litre of dishwashing water.

All surfactants must be aerobically and anaerobically biodegradable.

All surfactants must be readily biodegradable and anaerobically degradable.

Surfactants must be readily biodegradable. Surfactants must be 60 % anaerobically biodegradable. Surfactants must have a very low residual content of organohalogen compounds (<100 mg/kg TOX). Surfactants must not be very toxic to aquatic organisms. Surfactants must not be classified as R50, very toxic to aquatic organisms.

Table 60 Requirements on biodegradability for APC in EU Ecolabel and other schemes

All-purpose cleaners and sanitary cleaners																									
EU Ecolabel ⁸⁸	Nordic Swan ⁸⁹	Env Choice NZ ⁹⁰	Good Env Choice AU ⁹¹ (Bra Miljöval (Good Env Choice) ⁹²	Green Seal ⁹³																				
<p>Each surfactant used in the product shall be readily biodegradable. Surfactants that are not biodegradable under anaerobic conditions may be used in the product within specified limitations provided that the surfactants are not classified with H400/R50 (Very toxic to aquatic life):</p> <table border="1"> <thead> <tr> <th>Product</th> <th>Weight of anaerobically non-biodegradable surfactants</th> </tr> </thead> <tbody> <tr> <td>Diluted all-purpose cleaner</td> <td><0.40 g/l of water</td> </tr> <tr> <td>Undiluted all-purpose cleaner</td> <td><4.0 g/100 g of product</td> </tr> <tr> <td>Sanitary cleaner</td> <td><2.0 g/100 g of product</td> </tr> </tbody> </table>	Product	Weight of anaerobically non-biodegradable surfactants	Diluted all-purpose cleaner	<0.40 g/l of water	Undiluted all-purpose cleaner	<4.0 g/100 g of product	Sanitary cleaner	<2.0 g/100 g of product	<p>All surfactants must be aerobically and anaerobically biodegradable. The product's total content of aerobic (aNBO) and/or anaerobic (anNBO) non-biodegradable organic materials must not exceed the limits stated below per litre of in-use solution. aNBO and anNBO values are calculated for all organic substances in the detergent.</p> <table border="1"> <thead> <tr> <th>Market/cat</th> <th>aNBO (g/l)</th> <th>an-NBO (g/l)</th> </tr> </thead> <tbody> <tr> <td>Concentrated, consumer</td> <td>0.10</td> <td>0.10</td> </tr> <tr> <td>RTU WC, consumer</td> <td>2.10</td> <td>6.00</td> </tr> <tr> <td>RTU other, consumer</td> <td>2.00</td> <td>2.00</td> </tr> </tbody> </table>	Market/cat	aNBO (g/l)	an-NBO (g/l)	Concentrated, consumer	0.10	0.10	RTU WC, consumer	2.10	6.00	RTU other, consumer	2.00	2.00	<p>All surfactants must be readily biodegradable and anaerobically degradable.</p>	<p>All surfactants and organic ingredients must be readily biodegradable in accordance with AS 4351, relevant OECD tests, or shown on the most recent Detergents Ingredients Database (DID) list. All surfactants used in the product must be anaerobically biodegradable in accordance with ISO 11734, relevant OECD test or shown on the most recent DID list.</p>	<p>Surfactants must be readily biodegradable. Surfactants must be 60 % anaerobically biodegradable. Surfactants must have a very low residual content of organohalogen compounds – below 100 mg/kg TOX. Surfactants must not be very toxic to aquatic organisms. Surfactants must not be classified as R50, very toxic to aquatic organisms. If palm oil is used as a raw material in surfactant production, the surfactant manufacturer or the palm oil supplier must be a member of the Roundtable on Sustainable Palm Oil (RSPO) or be able to show that the palm oil used to produce the surfactants comes from a plantation that is certified in accordance with RSPO's</p>	<p>Each of the organic ingredients in the product as used shall exhibit ready biodegradability in accordance with the OECD definition except for the polymer portion of a carpet cleaner. However, all other ingredients in carpet cleaner must comply. Biodegradability shall be measured by one of the following methods: OECD TG 301A-F, ISO 9439 carbon dioxide (CO₂) evolution test, ISO 10708 (two-phase closed-bottle test), ISO 10707 (closed bottle test), or ISO 7827 (dissolved organic carbon removal). - Removal of Dissolved Organic Carbon (DOC) > 70 % - Biochemical Oxygen Demand (BOD) > 60 % - BOD, as % of Theoretical Oxygen Demand (ThOD) > 60 % - CO₂ evolution, as % of theoretical CO₂ > 60% For organic ingredients that do</p>
Product	Weight of anaerobically non-biodegradable surfactants																								
Diluted all-purpose cleaner	<0.40 g/l of water																								
Undiluted all-purpose cleaner	<4.0 g/100 g of product																								
Sanitary cleaner	<2.0 g/100 g of product																								
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Concentrated, consumer	0.10	0.10																							
RTU WC, consumer	2.10	6.00																							
RTU other, consumer	2.00	2.00																							

⁸⁸ all-purpose cleaners and sanitary cleaners)

⁸⁹ cleaning products)

⁹⁰ (general purpose cleaning products)

⁹¹ cleaning products)

⁹² chemical products)

⁹³ (cleaning products for household use)

All-purpose cleaners and sanitary cleaners

Window cleaner	<2.0 g/100 g of product	RTU window, consumer and professional	2.00	2.00			sustainable cultivation rules. For soft soaps, only surfactants made from saponified vegetable fatty acids may be used.	not exhibit ready biodegradability in these tests, the manufacturer may demonstrate biodegradability in sewage treatment plants using the Coupled Units Test found in OECD 303A by demonstrating DOC removal > 90 %.
		Conc'd, professional	0.045	0.250				
		RTU WC, professional	2.25	30.0				
		RTU, professional	0.70	0.70				

7.9.1.1 Biodegradability of surfactants

A number of studies have considered the role of anaerobic biodegradability as an indicator of environmental toxicity or persistence. Anaerobic biodegradability (by analogy with aerobic) is the breakdown in the environment of complex organic compounds into basic molecular forms. Aerobic oxidation, since it is in the presence of oxygen, tends to result in highly oxidised and hence chemically stable forms. On the other hand, anaerobic oxidation results in less oxidised forms as a consequence of low or no-oxygen reactions; these products may therefore react further when exposed to an oxygen-rich environment.

A review by Berna et al (2007⁹⁴), examined these effects as well as experimental methods for standardising tests, and came to the following conclusions:

“Anaerobic biodegradability as a strict pass/fail criterion is not in line with the environmental interpretation and significance that it should be given... If a surfactant is rapidly degradable under aerobic conditions, and its transitory presence in anaerobic environments does not affect [other compounds and processes] e.g. it is not inhibitory, then its anaerobic degradability is of minor importance.”

The authors admit that it is often not proven that such compounds are not inhibitory once in nature. For example, some cationic surfactants have been proven to have inhibitory effects. Nevertheless, the opinion is that lack of anaerobic biodegradability is not a good indicator of adverse impact.

In 2000, the European Commission (DG Enterprise and Industry) contracted a study to the Fraunhofer Institute (UMSICHT) to assess the environmental impact in the EU resulting from the incomplete biodegradation of detergent surfactants under anaerobic conditions⁹⁵. The report was completed in 2003 and covered among other aspects a survey of statistical data on detergent production and consumption in Europe as well as a set of recommendations for test methods and cost/effective measures on the anaerobic biodegradability of surfactants.

The main conclusions of Fraunhofer Report were:

- Surfactants must be ultimately and readily biodegradable under aerobic conditions in order to prevent adverse environmental impact.
- The poor biodegradability of some surfactants (e.g. LAS) under anaerobic conditions may sometimes result in a significant surfactant content in sewage sludge, especially after treatment in waste water treatment plants (WWTP) employing an anaerobic sludge stabilisation process. When the anaerobically treated sludge is used as fertiliser in agriculture, the surfactant concentration in the sludge amended soil is predicted to decrease rapidly because of the aerobic biodegradation process occurring in soil.
- With regard to sediments, no accumulation of aerobically ready biodegradable surfactants has been observed, in particular for LAS even over a period of several decades. This seems to confirm that aerobic (rather than anaerobic) biodegradation plays the main role in elimination of organic compounds.

In 2007, DG Enterprise and Industry made a request to the SCHER Committee for an opinion on: ‘(a) “Anaerobic biodegradation of surfactants” and (b) “Biodegradation of non-surfactant organic ingredients”, calling upon the previous research of HERA and the OECD⁹⁶.

An environmental risk assessment conducted by SCHER on non-biodegradable detergent surfactants under anaerobic conditions concluded that the requirement of anaerobic degradation is not an effective measure of the environmental performance of the product. This opinion is also shared by the Commission and was expressed in a study published in 2009 which reviews the anaerobic biodegradation of surfactants.⁹⁷ A conclusion of this study was that “in contrast to the

⁹⁴Berna, J.L. et al (2007) Anaerobic biodegradation of surfactants – scientific review, Tenside Surf. Det. (2007) 6, at http://www.erasm.org/study/Anaerobic_biodegrad-Tenside.pdf

⁹⁵ Part of report REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL Pursuant to Article 16 of Regulation (EC) No 648/2004 of the European Parliament and of the Council of 31 March 2004 on detergents, concerning anaerobic biodegradation at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2009:0230:FIN:EN:PDF>

⁹⁶ The full SCHER Opinion on anaerobic biodegradation can be found at http://ec.europa.eu/health/ph_risk/committees/04_scher/docs/scher_o_109.pdf.

⁹⁷ Report from the Commission to the European Parliament and the Council. Pursuant to Article 17 of Regulation (EC) N° 648/2004 of the European Parliament and of the Council of 31 March 2004 on detergents, concerning anaerobic biodegradation. Brussels, 2009. Report available at: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2009:0230:FIN:EN:PDF>.

adverse effects observed in the absence of aerobic degradation, the lack of anaerobic degradation does not seem to be correlated with any apparent risk for these environmental compartments.” The opinions of stakeholders are largely divided on this issue (see respective Preliminary Reports for summary of stakeholder feedback). Observing the approach taken by other schemes, it can be seen that anaerobic biodegradability of surfactants is often adopted requirement.

7.9.1.2 **Biodegradability of organic substances and mixtures**

Although surfactants can be considered as the most impactful component of detergent products, they are not the only non-biodegradable ingredient found in detergent products. Detergent products also contain a range of other organic components which are not biodegradable and therefore affect the environmental performance of the product.

Commonly used organic substances in detergents that are not **aerobically** biodegradable include for instance phosphonates, polycarboxylates, silicone, polymers, fragrance, colourants and optical brighteners.

The EU Ecolabel criteria for LD, IILD, DD and IIDD limit the amount of non-surfactant organics that are not biodegradable under both aerobic and anaerobic conditions. However, the key substance groups are generally handled using dedicated criteria, for example, for phosphonates, fragrances, and other, and are discussed in detail in dedicated sections of the Technical Annexe and specific technical reports.

7.9.1.3 **Assessment of biodegradability**

Several OECD screening tests (OECD 301A-F, 302, 304, 306 and 310) and simulation tests (OECD 303, 307, 308 and 309) are available for assessment of aerobic biodegradability of organic compounds. Potential biodegradability of organic compounds under anoxic conditions can be assessed in a screening test for anaerobic biodegradability (OECD 311)⁹⁸.

After December 2015, the ready biodegradability tests set out by the CLP Regulation shall be used in the scope of EU Ecolabels. This Regulation specifies that *'substances are considered **rapidly degradable** in the environment if one of the following criteria holds true:*

(a) if, in 28-day ready biodegradation studies, at least the following levels of degradation are achieved;

(i) tests based on dissolved organic carbon: 70 %

(ii) tests based on oxygen depletion or carbon dioxide generation: 60 % of theoretical maximum.

These levels of biodegradation must be achieved within 10 days of the start of degradation which point is taken as the time when 10 % of the substance has been degraded; or

(b) if, in those cases where only BOD and COD data are available, when the ratio of BOD5/COD is $\geq 0,5$;

or

(c) if other convincing scientific evidence is available to demonstrate that the substance can be degraded (biotically and/or abiotically) in the aquatic environment to a level > 70 % within a 28-day period.'

For anaerobic biodegradability, EN ISO 11734 norm or equivalent shall be used in the scope of EU Ecolabels. More information on the types of tests acceptable can be found in Appendix to EU Ecolabels related to detergents and rinse-off cosmetics, the text is provided below in Section 7.9.2.

⁹⁸ http://ec.europa.eu/health/ph_risk/committees/04_scher/docs/scher_o_109.pdf

7.9.2 Proposed common template

Given the differences in approaches that have been previously taken on the subject and the different opinions of the stakeholders during consultation, no proposal for changes are presented in this version of the technical document. It is proposed to discuss during the 1st Ad-Hoc Working Group meeting whether and how a harmonised approach can be worked out for all EU Ecolabel detergent and cleaning product groups. The most recent criteria for industrial and institutional laundry/dishwasher products are proposed to be taken as a starting point for the discussion. Then also all product specific modifications, exemptions should be analysed (for instance the agreed in IILD criteria exemption for anionic surfactants).

The text below is a template that can be used to build the harmonised text.

Criterion X – "Biodegradability"

a) Biodegradability of surfactants

To be discussed at the 1st AHWG meeting.

All surfactants shall be biodegradable under aerobic conditions.

All (non-ionic and cationic) surfactants shall be biodegradable under anaerobic conditions.

b) Biodegradability of organic substances and mixtures

To be discussed at the 1st AHWG meeting.

The content of organic substances and mixtures in the product that are aerobically non-biodegradable (not readily biodegradable aNBO) or anaerobically non-biodegradable (anNBO) shall not exceed the following limits for the reference dosage:

Product type	aNBO	anNBO
Type of product	x,xx g	x,xx g

Assessment and verification: The applicant shall provide documentation for the degradability of surfactants, as well as the calculations of aNBO and anNBO for the product. A spreadsheet for use in calculating aNBO and anNBO values is available on the EU Ecolabel website.

For both surfactants and aNBO and anNBO values, reference shall be made to the DID List. For ingredients which are not included in the DID List, the relevant information from literature or other sources, or appropriate test results, showing that they are aerobically and anaerobically biodegradable shall be provided as described in Appendix I.

In the absence of documentation in accordance with the above requirements, an ingoing substances and mixtures other than a surfactant may be exempted from the requirement for anaerobic degradability if one of the following three alternatives is fulfilled:

1. Readily degradable and has low adsorption ($A < 25\%$);
2. Readily degradable and has high desorption ($D > 75\%$);
3. Readily degradable and non-bioaccumulating.

Testing for adsorption/desorption may be conducted in accordance with OECD guidelines 106.

Appendix I:

Documentation of ready biodegradability

The test methods provided for in Regulation (EC) No 1272/2008 for ready biodegradability shall be used.

Documentation of anaerobic biodegradability

The reference test for anaerobic degradability shall be EN ISO 11734, ECETOC No 28 (June 1988), OECD 311 or an equivalent test method, with the requirement of 60% ultimate degradability under anaerobic conditions. Test methods simulating the conditions in a relevant anaerobic environment may also be used to document that 60% ultimate degradability has been attained under anaerobic conditions.

Extrapolation for substances not listed in the DID-list

Where the ingoing substances are not listed in the DID-list, the following approach may be used to provide the necessary documentation of anaerobic biodegradability:

(1) *Apply reasonable extrapolation.* Use test results obtained with one raw material to extrapolate the ultimate anaerobic degradability of structurally related surfactants. Where anaerobic biodegradability has been confirmed for a surfactant (or a group of homologues) according to the DID-list, it can be assumed that a similar type of surfactant is also anaerobically biodegradable (e.g., C12-15 A 1-3 EO sulphate [DID No 8] is anaerobically biodegradable, and a similar anaerobic biodegradability may also be assumed for C12-15 A 6 EO sulphate). Where anaerobic biodegradability has been confirmed for a surfactant by use of an appropriate test method, it can be assumed that a similar type of surfactant is also anaerobically biodegradable (e.g., literature data confirming the anaerobic biodegradability of surfactants belonging to the group alkyl ester ammonium salts may be used as documentation for a similar anaerobic biodegradability of other quaternary ammonium salts containing ester-linkages in the alkyl chain(s)).

(2) *Perform screening test for anaerobic degradability.* If new testing is necessary, perform a screening test by use of EN ISO 11734, ECETOC No 28 (June 1988), OECD 311 or an equivalent method.

(3) *Perform low-dosage degradability test.* If new testing is necessary, and in the case of experimental problems in the screening test (e.g. inhibition due to toxicity of test substance), repeat testing by using a low dosage of surfactant and monitor degradation by ¹⁴C measurements or chemical analyses. Testing at low dosages may be performed by use of OECD 308 (August 2000) or an equivalent method.

7.10 Excluded and limited substances and mixtures

Limiting the amount of environmentally harmful substances contained in detergents is essential as there is close contact between the aquatic environment and detergents throughout their lifetime. Although detergent wastewaters generally go through sewage treatment systems, in the worst case scenario, ingredients may be released directly into the aquatic environment. The Detergent Directive does not prohibit the use of substances in detergent products on the basis of their environmental properties, but the EU Ecolabel Regulation 66/2010 sets out general requirements for substances:

"The EU Ecolabel may not be awarded to goods containing substances or preparations/mixtures meeting the criteria for classification as toxic, hazardous to the environment, carcinogenic, mutagenic or toxic for reproduction (CMR), in accordance with Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, nor to goods containing substances referred to in Article 57 of Regulation (EC) No 1907/2006 of the European parliament and the Council of 18 December 2006 concerning the Registration, evaluation, authorization of chemicals (REACH) establishing a European Chemicals Agency".

The Regulation allows derogations of specific substances under strictly defined conditions:

"For specific categories of goods containing substances referred to in paragraph 6, and only in the event that it is not technically feasible to substitute them as such, or via the use of alternative materials or designs, or in the case of products which have a significantly higher overall environment performance compared with other goods of the same category, the Commission may adopt measures to grant derogations from paragraph 6".

"No derogation shall be given concerning substances that meet the criteria of Article 57 of Regulation (EC) No 1907/2006 and that are identified according to the procedure described in Article 59(1) of that Regulation, present in mixtures, in an article or in any homogeneous part of a complex article in concentrations higher than 0,1 % (weight by weight)".

Moreover, the EU Ecolabel Regulation also requires individual EU Ecolabels to go above and beyond the general requirements on substances and proposed criteria that would further ensure that EU Ecolabel products have a reduced impact on the environment. Therefore, the aim of this criterion on excluded and limited substances aims to exclude or limit toxic or hazardous substances and mixtures, thus ensuring that the EU Ecolabel is only awarded to the least environmentally impacting products.

The EU Ecolabel criteria can limit the inclusion of certain substances and mixtures using three approaches:

- specific exclusions for substances and mixtures that may not have been prohibited by other requirements,
- exclusions and limitations based on classification with hazard classes, and
- specific limitations by substance type/ substance group.

For each product group LCA studies performed as part of the technical analysis (Section 4 of the respective Preliminary Reports) have shown that chemicals used for the manufacturing of detergent products significantly contribute to the overall environmental impact. The chemicals contribute mainly due to the impacts caused during their extraction (evidence was shown that contributes in particular categories such as terrestrial ecotoxicity, agricultural land occupation and natural land transformation, but also for ozone depletion and metal depletion. These environmental impacts are mainly associated with the use of land and the use of non-renewable energy to synthesize them) and in other aspects not covered by ReCiPe, such as ecotoxicity..

The end-of-life stage includes the treatment of wastewater once the product has been used. The wastewater contains the water used for the washing and the rinsed-off detergent – in the case of some product groups such as laundry detergent, almost all the detergent goes to the wastewater. This stage has important share in all environmental impact categories analysed, but the particular interest are the scores got for marine eutrophication and metal depletion.

The restriction or exclusion of substances in the EU Ecolabels related to detergents aims to considerably reduce the overall environmental impact of these products through the identification of those substances that cause the highest environmental impacts and their restricted use in EU

Ecolabel products. Among the substances that have been found to have a high environmental impact, there are some that are essential ingredients in detergents formulations and for which, for the time being, there are no viable alternatives. Derogations are proposed for these substances.

7.10.1 Specified excluded ingoing substances and mixtures

Being proactive (e.g. taking as basis the precautionary principle) some specific substances which arise environmental or health related concern have been discussed and considered to be specifically excluded or restricted in the product group under study. The substances currently excluded from the detergents and cleaning product groups are those included in Table 61.

Table 61 Specified excluded ingoing substances and mixtures in the currently valid criteria

Substance	IIDD	DD	IILD	LD	APC	HDD
Phosphates		x	x	x		
EDTA	x	x	x	x	x	x
APEO and ADP	x		x		APEO and derivatives	APEO and derivatives
DTPA		x				
Fragrances	x	Fragrances subject to declaration requirement \geq 0100 ppm	Fragrances subject to declaration requirement \geq 0100 ppm	Fragrances subject to declaration requirement \geq 0100 ppm	Fragrances subject to declaration requirement \geq 0100 ppm	Fragrances subject to declaration requirement \geq 0100 ppm
Nitromusks and plicyclic musks		x	x	x	x	x
Quaternary ammonium salts not readily biodegradable						x
Reactive chlorine compounds	x	x				
Perborates		x				
5-bromo-5-nitro-1,3-dioxane					x	x
2-bromo-2-nitropropane-1,3-diol					x	x
Diazolinidylurea					x	x
Sodium hydroxyl methyl glycinate					x	x
Formaldehyde					x	x

They are briefly presented below:

7.10.1.1 Phosphorous: Total phosphorus content, phosphates and/or phosphonates

Phosphorus compounds such as phosphates and phosphonates are commonly used as builders in detergent based products. Builders are chemical compounds that soften water by removing cations (mainly calcium, Ca^{2+} , and magnesium Mg^{2+}) contained in wash solutions and highly present in areas where water is hard. The effect of water softening is to improve wash performance by ensuring calcium and magnesium deposits do not remain on the washed items and to ensure that the active detergent component is directed at its primary washing function, rather than being neutralized by the cations. Softeners also help by assisting washing equipment to remain

sediment-free and hence more efficient. All these outcomes are aligned to reduced environmental impact.

However, phosphorus is a major contributor to eutrophication in water systems and as such the use of phosphorus compounds in laundry and dishwasher detergents is being phased out in favour of lower impact alternatives. In general terms, emissions of phosphates from point sources such as wastewater have fallen over the past 30 years. This is primarily due to improved cleaning of wastewater in Northern and Western Europe, following implementation of the EU's Urban Waste Water Treatment Directive 1991/271/EEC.

Keeping on reducing the emission of phosphates to the environment, on 19 April 2012 a consolidated version of Regulation (EC) No. 648/2004 was published, containing the latest adopted amendment, Regulation (EC) No. 259/2012. This imposes a restriction on phosphates in domestic laundry and dishwasher detergents. These limitations are reported in Table 62.

Table 62 Limitations on the content of phosphates and of other phosphorus compounds

Detergents	Limitations	From on
1. Consumer laundry detergents	Shall not be placed on the market if the total content of phosphorus is equal to or greater than 0.5g in the recommended quantity of the washing process for a standard washing machine load as defined in section B of Annex VII for water of hard water hardness - for 'normally soiled' fabrics in the case of heavy-duty detergents - for 'lightly soiled' fabrics in the case of detergents for delicate fabrics	30 June 2013
2. Consumer automatic dishwasher detergents	Shall not be placed on the market if the total content of phosphorus is equal to or greater than 0.3g in the standard dosage as defined in section B of Annex VII	1 January 2017

Annex VII of the Regulation sets provisions on labelling and how they should be applied to the packaging of detergents sold to the general public, the content of phosphates and phosphonates added in a concentration above 0.2% wt shall be indicated following weight percentage ranges. This Annex VII also sets what is considered the standard conditions. In this respect the standard washing machine loads are 4.5kg dry fabric for heavy-duty detergents and 2.5kg dry fabric for light-duty detergents. A detergent shall be considered a heavy-duty detergent unless the claims of the manufacturer predominantly promote fabric care, i.e. low temperature wash, delicate fibres and colours. The standard washing cycle for consumer automatic dishwasher detergents is normally soiled tableware in a fully loaded 12 place settings dishwasher, making provisions, where relevant, for soft, medium and hard water hardness.

It should be noted that these limits apply to each detergent product separately, they do not sum up for different detergent and auxiliary products which may be used together in a wash cycle and additionally, they apply only to consumer detergents placed on the market.

Even if the content of phosphorus is recognized to cause environmental burdens, the case for and against the use of phosphorous is not straightforward. The traditional chemical form has been phosphate, such as sodium tri-phosphate, which has been the target of reduction efforts. Alternative phosphonate forms exist, which have a lower eutrophication potential and have thus replaced phosphate to some extent. The characteristic of this type of chemicals are:

- phosphates (DID no 113) are quite strong complexing agents, phosphates have good environmental properties in that they are not harmful to aquatic organisms and as they are inorganic there is no great point in considering degradability. However, phosphates are nutrients and contribute to eutrophication of the aquatic environment. Phosphates are therefore not a problem-free. Phosphates are also regulated separately in several countries in order to reduce emissions of phosphates into vulnerable aquatic environments. Moreover, the Commission in 2007 released a report supporting the restrictions in the use of phosphates in detergents⁹⁹

⁹⁹ Report from the Commission to the council and the European parliament. Pursuant to Article 16 of Regulation (EC) No 648/2004 of the European Parliament and of the Council of 31 March 2004 on detergents, concerning the use of phosphates.
<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2007:0234:FIN:en:PDF>

- *phosphonates (DID no 119)* are a range of phosphorus compounds that are good complexing agents. Phosphonates are not harmful to aquatic organisms, but they are persistent and not anaerobically degradable. Phosphonates contain phosphorus and are therefore a nutrient that can lead to eutrophication. Phosphonates are used as complexing agents to a lesser extent than phosphates, since phosphates are much stronger complexing agents.

In the last years, phosphonates have been indeed recognized as effective chelating agents that bind tightly to di- and trivalent metal ions, preventing them from forming insoluble precipitates (scale) and suppressing their catalytic properties. For this reason phosphonates have increased their application in detergents, because they prevent precipitation of calcium salts, stabilize peroxybleaches and have anti-corrosion properties. In combination with zeolites, they play a major role in phosphate-free or low-phosphate detergents¹⁰⁰. A study conducted on behalf of the European Commission on non-surfactant organic ingredients found that there is no significant risk posed by the presence of phosphonates in sewage sludge¹⁰¹. The majority of phosphonates found in detergents will end up in sewage sludge, due to their low terrestrial toxicity, but this should not be a cause for concern.

Most commonly used phosphonates in European detergent products are: aminotris (methylene phosphonic acid) (ATMP), diethylene triamine penta(methylene phosphonic) acid (DTPMP) and hydroxyethane dimethylene phosphonic acid (HEDP). The health and environmental risks of these three acids have been studied by HERA. The overall conclusion of this report is that in terms of environmental risk, the use of ATMP, HEDP and DTPMP in household laundry and cleaning products is that there is no overall risk, but further studies on degradation and the fate of phosphonates in the environment is recommended.

The environmental data of phosphonates has been reviewed in depth by Gledhill and Feijtel in a study published in 1992, the data from this study has been used by the HERA report and a Procter & Gamble environment information sheet. Phosphonates show only a low degree of ultimate biodegradation when using the OECD screening test. Studies have shown that evidence of phosphonates can be found in soil, activated sludge or river water, thus providing evidence of its low biodegradability.

The preference for using one or another chemical depends on several factors. Among them the hardness of water is of relevance. In areas with hard water, phosphates are much better than other complexing agents. Phosphates also allow a reduction on dosing compared with other complexing agents such as citrates. Higher dosing requires more chemicals, which leads to increased emissions of chemicals into the aquatic environment.

The preference for using one or another chemical depends on several factors. Among them the hardness of water is of relevance. In areas with hard water, phosphates are much better than other complexing agents. Phosphates also allow a reduction on dosing compared with other complexing agents such as citrates. Higher dosing requires more chemicals, which leads to increased emissions of chemicals into the aquatic environment.

The benefits of moving from phosphate-free detergents have been assessed for each of the EU-25 countries in 2006. The greatest benefits are estimated in countries with high phosphate detergent use, low provision of tertiary sewage treatment and severe problems with eutrophication. Based on this assessment, there are only few or some benefits to gain in Northern and Central Europe, whereas the most benefits from moving to phosphate free detergents are assumed to be gained in the Baltic, Eastern and Southern European countries (Czech Republic, Slovakia, Poland, Spain, Portugal, Latvia and Lithuania, among other countries)¹⁰². Phosphate-free detergents are widely available on European markets¹⁰³

The content of phosphorus is restricted in most of the ecolabel schemes for detergents. Ecolabels have taken a variety of approaches to phosphates and phosphonates including excluding phosphates only, any phosphorous compounds, or a middle way, where a limit is set on total phosphorous. Some of these restrictions are summarized in Table 63.

¹⁰⁰ Polyphosphonates (phosphonic acids), ingredient safety information, P&G Environmental Science data.

¹⁰¹ Non-surfactant Organic Ingredients and Zeolite-based Detergents, Final Report prepared for the European Commission, RPA June 2006. Available from: http://ec.europa.eu/enterprise/sectors/chemicals/files/studies/rpa_non_surf_organ_zeolites_en.pdf

¹⁰² Non-surfactant organic ingredients and zeolite-based detergent. Final report prepared for the European Commission, risk an policy analysis limited (RPA) June 2006

¹⁰³ <http://auneconservation.org.uk/wp-content/uploads/2011/04/phosphatefree-detergent-list.pdf>

Table 63 Summary of the restrictions related to P-content in the selected ecolabelling schemes

Label	Restriction																								
Industrial and institutional automatic dishwasher detergents (IIDD)																									
Nordic labelling	The total content of phosphorus in the product is limited to: <table border="1" style="margin-left: 40px;"> <thead> <tr> <th>Product type</th> <th>P (g/l water)</th> </tr> </thead> <tbody> <tr> <td>Dishwasher detergents and pre-soaks</td> <td>0.08</td> </tr> <tr> <td>Rinse aids</td> <td>0.04</td> </tr> </tbody> </table>	Product type	P (g/l water)	Dishwasher detergents and pre-soaks	0.08	Rinse aids	0.04																		
	Product type	P (g/l water)																							
Dishwasher detergents and pre-soaks	0.08																								
Rinse aids	0.04																								
	The total content of phosphonates/phosphonic acids must not exceed the limits specified below: Dishwasher detergents and presoaks: 0.01 g/l water Rinse aids: 0.006g/l water																								
Env. Choice NZ	Total phosphorus must not exceed the following quantities: <table border="1" style="margin-left: 40px;"> <thead> <tr> <th>Product type (in soft water)</th> <th>P (gP/L solution)</th> </tr> </thead> <tbody> <tr> <td>Dishwasher detergents and pre-soaking liquid</td> <td>0.4</td> </tr> <tr> <td>Drying agent</td> <td>0.4</td> </tr> </tbody> </table>	Product type (in soft water)	P (gP/L solution)	Dishwasher detergents and pre-soaking liquid	0.4	Drying agent	0.4																		
	Product type (in soft water)	P (gP/L solution)																							
Dishwasher detergents and pre-soaking liquid	0.4																								
Drying agent	0.4																								
	The product must not contain more than 0.2 g of phosphonates that are not readily biodegradable (aerobically) per wash.																								
EU Ecolabel	The total quantity of phosphates and other phosphorus compounds must not exceed the limit values specified in the table below: <table border="1" style="margin-left: 40px;"> <thead> <tr> <th>(g P/l water)</th> <th colspan="3">Water hardness (°dH)</th> </tr> <tr> <th>Product type</th> <th>Soft (0-6)</th> <th>Med (7-13)</th> <th>Hard (>14)</th> </tr> </thead> <tbody> <tr> <td>Pre-soaks</td> <td>0.08</td> <td>0.08</td> <td>0.08</td> </tr> <tr> <td>Detergents</td> <td>0.15</td> <td>0.30</td> <td>0.50</td> </tr> <tr> <td>Rinse aids</td> <td>0.02</td> <td>0.02</td> <td>0.02</td> </tr> <tr> <td>Multicomp system</td> <td>0.17</td> <td>0.32</td> <td>0.52</td> </tr> </tbody> </table>	(g P/l water)	Water hardness (°dH)			Product type	Soft (0-6)	Med (7-13)	Hard (>14)	Pre-soaks	0.08	0.08	0.08	Detergents	0.15	0.30	0.50	Rinse aids	0.02	0.02	0.02	Multicomp system	0.17	0.32	0.52
	(g P/l water)	Water hardness (°dH)																							
	Product type	Soft (0-6)	Med (7-13)	Hard (>14)																					
	Pre-soaks	0.08	0.08	0.08																					
	Detergents	0.15	0.30	0.50																					
	Rinse aids	0.02	0.02	0.02																					
Multicomp system	0.17	0.32	0.52																						
Consumer automatic dishwasher detergents(DD)																									
Nordic labelling	The total content of phosphorus in the product must not exceed: <table border="1" style="margin-left: 40px;"> <thead> <tr> <th>Product type</th> <th>P (g/wash)</th> </tr> </thead> <tbody> <tr> <td>Dishwasher detergents</td> <td>0.20</td> </tr> <tr> <td>Rinsing agents</td> <td>0.030</td> </tr> </tbody> </table>	Product type	P (g/wash)	Dishwasher detergents	0.20	Rinsing agents	0.030																		
	Product type	P (g/wash)																							
Dishwasher detergents	0.20																								
Rinsing agents	0.030																								
Env. Choice NZ	The product must not contain more than 0.2 g phosphonates which are not readily biodegradeable (aerobically) per wash.																								
EU Ecolabel	Phosphates shall not be included in the product, neither as part of the formulation nor as part of any mixture included in the formulation																								
Milik Bjorn	Ingredients that contain phosphorus must not be added to the product intentionally.																								
Good env choice AU	The product must not be manufactured using any phosphorus compounds. Trace amounts of phosphorus must not exceed 0.05% w/w excluding water.																								
Singapore Green Labelling	The total phosphorus content shall not exceed 0.5 %. The pH value of the detergent shall be < 11.																								

Industrial and institutional laundry (IILD)													
Nordic labelling	<p>a) Phosphorus The total content of phosphonates and other phosphorus compounds in the product is limited to: Light soiling: 0.50 g/kg laundry Medium soiling: 1.00 g/kg laundry Heavy soiling: 1.50 g/kg laundry</p> <p>Products containing more phosphorus than what is allowed under the Norwegian regulations must not be sold and used in Norway or areas where there are rules and bans on phosphorus in laundering chemicals.</p> <p>b) phosphonates/phosphonic acid the total phosphonate/phosphonic acid may not exceed the limit value shown in the table</p> <table border="1"> <thead> <tr> <th>g/kg laundry</th> <th>light</th> <th>medium</th> <th>heavy</th> </tr> </thead> <tbody> <tr> <td>At 30-40C washes</td> <td>0.15</td> <td>0.20</td> <td>0.30</td> </tr> <tr> <td>At 30-40C washes</td> <td>0.075</td> <td>0.10</td> <td>0.15</td> </tr> </tbody> </table>	g/kg laundry	light	medium	heavy	At 30-40C washes	0.15	0.20	0.30	At 30-40C washes	0.075	0.10	0.15
g/kg laundry	light	medium	heavy										
At 30-40C washes	0.15	0.20	0.30										
At 30-40C washes	0.075	0.10	0.15										
Env. Choice NZ	<p>a) The maximum concentration of complexing agents (e.g. phosphate, phosphonate, silicate, polycarboxylate, polyacrylate, zeolite and iminodisuccinate) in the product must not exceed 10 g/kg laundry (dry wt.). Citrate shall not be included in this amount.</p> <p>b) The product shall not contain more than the following concentrations of phosphorus, counted as P: Light soiling – 0.5 g phosphorus /kg laundry (dry weight) Medium soiling – 1.0 g phosphorus /kg laundry (dry weight) Heavy soiling – 1.5 g phosphorus /kg laundry (dry weight)</p> <p>c) The product shall not contain more than 0.5 g of phosphonates that are not readily biodegradable (aerobically) per kg laundry (dry weight).</p>												
EU Ecolabel	Phosphates shall not be included in the product, neither as part of the formulation nor as part of any mixture included in the formulation apart from those that comply with the biodegradability criterion.												
Consumer laundry detergents (LD)													
Nordic labelling	<p>The total content of phosphorus in the product is limited to:</p> <table border="1"> <thead> <tr> <th>Product type</th> <th>P (g/kg wash)</th> </tr> </thead> <tbody> <tr> <td>Heavy-duty LD (normally soiled)</td> <td>0.030</td> </tr> <tr> <td>Low-duty LD (lightly soiled)</td> <td>0.030</td> </tr> <tr> <td>Stain-removers (in-wash)</td> <td>0.010</td> </tr> <tr> <td>Stain-removers (pre-treatment)</td> <td>0.005</td> </tr> </tbody> </table>	Product type	P (g/kg wash)	Heavy-duty LD (normally soiled)	0.030	Low-duty LD (lightly soiled)	0.030	Stain-removers (in-wash)	0.010	Stain-removers (pre-treatment)	0.005		
Product type	P (g/kg wash)												
Heavy-duty LD (normally soiled)	0.030												
Low-duty LD (lightly soiled)	0.030												
Stain-removers (in-wash)	0.010												
Stain-removers (pre-treatment)	0.005												
Env. Choice NZ	The product must not contain > 0.15 g phosphonates which are not readily biodegradable / kg laundry (dry wt)												
EU Ecolabel	Phosphates shall not be included in the product, neither as part of the formulation nor as part of any mixture included in the formulation												
Milik Bjorn	Ingredients that contain phosphorus must not be added to the product intentionally.												
Singapore Green Labelling	Phosphonates are prohibited from the product. The total amount of phosphorus shall be <0.5 %.												
All-purpose cleaners consumer user (APC)													
Nordic labelling	--												
Env. Choice NZ	The product shall not be formulated with phosphates and phosphonates that are not aerobically biodegradable												
EU Ecolabel	<p>The total quantity of elemental phosphorus in the product shall be calculated on the basis of the dosage of the product recommended by the manufacturer for preparing 1 litre of washing water for cleaning of normally soiled surfaces (for products diluted in water prior to use) or per 100 g of product (for products used without dilution):</p> <table border="1"> <thead> <tr> <th>Product</th> <th>Maximum phosphorus level</th> </tr> </thead> <tbody> <tr> <td>Diluted all-purpose cleaner</td> <td><0.02 g/l of water</td> </tr> <tr> <td>Undiluted all-purpose cleaner</td> <td><0.2 g/100 g of product</td> </tr> <tr> <td>Sanitary cleaner</td> <td><1.0 g/100 g of product</td> </tr> <tr> <td>Window cleaner</td> <td>Zero</td> </tr> </tbody> </table>	Product	Maximum phosphorus level	Diluted all-purpose cleaner	<0.02 g/l of water	Undiluted all-purpose cleaner	<0.2 g/100 g of product	Sanitary cleaner	<1.0 g/100 g of product	Window cleaner	Zero		
Product	Maximum phosphorus level												
Diluted all-purpose cleaner	<0.02 g/l of water												
Undiluted all-purpose cleaner	<0.2 g/100 g of product												
Sanitary cleaner	<1.0 g/100 g of product												
Window cleaner	Zero												
Good Env Choice AU	The product must not be manufactured using any phosphorus compounds. Trace amounts of phosphorus must not exceed 0.05 % w/w excluding water.												

Milik Bjorn	Ingredients that contain phosphorus must not be added to the product intentionally.
Green Seal	the product as used shall not contain more than 0.5 % by weight of total phosphorus
Industrial and institutional all-purpose cleaner (IIAPC)	
EU Ecolabel	See consumer APC
Env. Choice NZ	Phosphorus may be included in commercial and institutional cleaners up to no more than 0.5% of total weight. All phosphonates must be readily aerobically biodegradable.
Green Seal	The product as used shall not contain more than 0.5% by weight of total phosphorus
Hand dishwasher detergents consumer use (HDD)	
EU Ecolabel	--
Nordic labelling	--
Env. Choice NZ	--
Good Env. Choice CR	Ingredients that contain phosphorus must not be added to the product intentionally

Requiring phosphorus-free detergents would be desirable and there are already available products on the market and their performance is at present similar to that of the phosphorus-content detergents. The technical problems reported some years ago concerning the solubility of dirt and keeping it in suspension during washing or problems to remove staining on glass when using alternatives builders in hard water areas have been mainly solved over the course of time.

The larger, mainly international, producers of detergents (mainly laundry and dishwasher detergents) have already adapted to the various market demands of supplying phosphorus-free detergents with acceptable technical performance. There is therefore no major problem with the supply of phosphorus-free detergents. For example, in Sweden between 2005 and 2007 the proportion of phosphorus-free automatic dishwasher detergents on the Swedish market grew from 10 to 27%. When only domestic production was considered, 74% were phosphorus-free. Between 2007 and 2009 the domestic production of phosphorus free automatic dishwasher detergents continued to grow from 74 to 96%.

Banning phosphates in detergents or requiring phosphorus-free detergents is among the cheapest possible measures to reduce phosphorus at source, compared to measures within agriculture or the construction of wetlands etc¹⁰⁴. However, smaller companies producing detergents may in some countries have difficulties with increased costs when their products must be reformulated. These costs however need to be put into perspective with the overall costs of achieving the goals of e.g. the Water Framework Directive¹⁰⁵.

Therefore, it is proposed that the phosphorus content in the revision of the EU Ecolabel criteria, will be dealt, whenever possible, as follows:

- ban for phosphates
- ban for phosphonates that are not aerobically-biodegradable, and
- limit on total amount of phosphorus. The limit in phosphorus content follows the approach included in the Detergent Regulation but it has a higher level of ambition

Consequently, the assessment and verification process of most of the current EU Ecolabel criteria should be changed, reflecting the proposed changes. The assessment and verification of each of the above conditions are proposed to be met by:

a) Assessment and verification for the ban for phosphates: The applicant shall provide a signed declaration of compliance supported by declarations from manufacturers of mixtures, as appropriate, confirming that the listed substances and/or mixtures have not been included in the product.

b) Assessment and verification for the ban for phosphonates, those are not aerobically biodegradable: The applicant shall provide written statements on compliance, including:

- information on the complexing agents in the product (detail information of the type of phosphonates added as ingredients);
- information for the biodegradability of the phosphonates. A spreadsheet for use in calculating aNBO values is available on the EU Ecolabel website.

¹⁰⁴ Economic analysis on the BSAP with focus on eutrophication, Report 2(1) (2007) to HELCOM, COWI Group Consulting.

¹⁰⁵ http://www.kemi.se/Documents/Publikationer/Trycksaker/Faktablad/QandA_Phosphates_in_Detergents.pdf

For aNBO values reference should be done to the DID List. For phosphonates which are not included in the most updated DID list, the relevant information from literature or other sources, or appropriate test results, showing that they are aerobically biodegradable shall be provided as described in Appendix I.

c) Assessment and verification for the limited total amount of phosphorusThe applicant shall provide written statements on compliance, including:

- information on the complexing agents in the product (detail information of the type of phosphorus-content substances added as ingredients);
- information on the recommended dose for different levels of soiling or water hardness (when applicable);
- calculation of the product's total P-content

7.10.1.2 EDTA and DTPA

EDTA (ethylenediaminetetraacetic acid $C_{10}H_{16}N_2O_8$) is a compound of massive use worldwide with household and industrial applications, being one of the anthropogenic compounds with highest concentrations in inland European waters. This substances is used in detergents as a chelating agent to stabilise perborates. The use of EDTA is proposed to be restricted because its salts are not readily biodegradable and, according to the EU's risk evaluation, in conditions found in municipal wastewater treatment EDTA is poorly biodegradable¹⁰⁶, is persistent and contributes to remobilization of heavy metals bioavailability in the environment, which is a big concern. According to ECHA, EDTA has been registered as H319 Causes serious eye irritation¹⁰⁷, H332 Harmful if inhaled and H412 Harmful to aquatic life with long lasting effects¹⁰⁸.

In the EU Ecolabel criteria for rinsed-off cosmetics and the current EU Ecolabel criteria for detergents EDTA is already excluded. In the feedback during the development of those EU Ecolabel criteria sets it was emphasized that better biodegradable chelants are already available. e.g. Methylglycinediacetic acid MGDA (trilon M) or Ethylenediamine-N,N'-disuccinic acid EDDS.

DTPA (diethylene triamine pentaacetic acid) is used for similar function as EDTA. It is commonly used as chelant. The environmental fate of diethylenetriaminepentaacetic acid $C_{14}H_{23}N_3O_{10}$ (DTPA) has been in the last years studied and confirmed that DTPA is persistent toward biodegradation in water treatment plants¹⁰⁹. It has also been classified as toxic for reproduction. However, as the classification is not yet harmonized under the CLP Regulation, therefore it should be explicitly excluded from use.

NTA Nitrolotriactic acid (NTA) is a common industrial chelating agent. It is used for instance as a builder in order to replace phosphates in laundry detergents. Environmental concern related to NTA are linked firstly, to its contribution to the eutrophication and secondly, to its ability to solubilize and mobilize heavy metals from sediments and activated sludge¹¹⁰. NTA is classified as carcinogenic however there is not a harmonised classification. It is excluded in several schemes. In the EU Ecolabel it is derogated as an impurity in MGDA and GLDA In concentrations lower than 1,0 % in the raw material as long as the total concentration in the final product is lower than 0,10 %. EDTA is explicitly restricted in most of the ecolabel schemes and in all the products under study. However, this is not the case for DTPA that, although it is restricted due to its classification as a CMR substance, it is only explicitly restricted in consumer detergents for dishwashers and APCs but not in laundry detergents. Finally, NTA is explicitly excluded in professional laundry and dishwasher detergents in Nordic Ecolabelling and in general in Environmental Choice New Zealand products.

¹⁰⁶ European chemical industry council <http://www.cefic.be>

¹⁰⁷ <http://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/cl-inventory/view-notification-details/108021/28709045>

¹⁰⁸ <http://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/cl-inventory/view-notification-details/108021/28808610>

¹⁰⁹ Nordic Ecolabelling of Dishwasher detergents and Rinsing agents Version 6.1, 19 March 2014 - 31 March 2018, available at:

<http://www.nordic-ecolabel.org/criteria/product-groups/>

¹¹⁰ Kyung Jang J. et al., Nitrolotriactic Acid Degradation Under Microbial Fuel Cell Environment, Biotechnology and Bioengineering, Wiley InterScience, 2006.

Table 64 Comparison of exclusions of EDTA, DTPA and NTA in revised ecolabelling schemes

Ecolabel scheme	LD	IILD	DD	IIDD	APC	HDD
EDTA						
Current EU Ecolabel	x	x	x	x	x	
Nordic Labelling	x	x	x	x	x	
Bra Miljoval						
Env. Choice NZ	x	x	x	x	x	
Good Env choice AU					x	
Green Seal						
Singapore green	x		x			
DTPA						
Current EU Ecolabel			x			
Nordic Labelling			x		x	
Bra Miljoval						
Env. Choice NZ			x		x	
Good Env choice AU					x	
Green Seal						
Singapore green			x			
NTA						
Current EU Ecolabel	Derogation apply	Derogation apply	Derogation apply	Derogation apply		
Nordic Labelling		x		x		
Bra Miljoval						
Env. Choice NZ	x	x	x	x	x	
Good Env choice AU						
Green Seal						
Singapore green				x		

7.10.1.3 APEO and ADP

Alkylphenol ethoxylates (APEOs) and alylphenol derivatives (APDs) belong to the group of non-ionic surfactants used in detergents for household and industrial cleaning. Together with their degraded intermediates they are ubiquitously present in runoffs, sewage discharge and sludge. They are persistent and can be found not only in water or sediments but also in animals and in human bodies^{111, 112}. They are potential endocrine disruptors, thus their presence in Ecolabel products should be explicitly excluded.

On biodegradation APEOs produce less biodegradable products (alkylphenols) which are known to be persistent in sewage treatment facilities and rivers. These metabolites are known to be more toxic than the original compounds and have hormone-like effects. APEOs can be biodegraded through a mechanism involving stepwise loss of ethoxy groups to form lower EO congeners (shorter APE homologues), carboxylated products (alkylphenol ethoxycarboxylates), and APs such as nonylphenol ethoxylates (NPE) and octylphenol ethoxylates (OPE) in the environment¹¹³. NP and OP are known to be more toxic than their EO precursors and to mimic the effect of the hormone estrogen. The route of human and wildlife exposure to these chemicals is mainly through water, although there is some exposure through terrestrials as well¹¹⁴.

¹¹¹ Leung, Sau-mei, Teresa: Nonylphenol- and octylphenol-ethoxylates in surfactant products : need control or not? An overview of their consumption, environmental fate and risks and public awareness in Hong Kong as compared to overseas countries, Master thesis, The University of Hong Kong, 2013

¹¹² P. Whitehouse: Environmental Impacts of Alkylphenol Ethoxylates and Carboxylates. Part I: Proposals for the Development of Environmental Quality Standards, R&D Technical Report P2-115/TR3, Environment Agency, Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol, 2002.

¹¹³ N. Jonkers, T.P. Knepper, P. de Voogt, Aerobic biodegradation studies of nonylphenol ethoxylates in river water using liquid chromatography–electrospray tandem mass spectrometry/Environ Sci Technol, 35 (2001), pp. 335–340

¹¹⁴ G. Ying, B. Williams, R.Kookana, Environmental fate of alkylphenols and alkylphenol ethoxylates-a review, Env Int 28, 3, 2002, 215–226

Regarding the presence of APEOs on the market, in 2002 the industrial applications comprised 55% of the APE market. The remaining uses includes industrial and institutional cleaning products (30%), household cleaning products (15%) and other miscellaneous uses (<1%). The most significant commercial APEs are OPEs and NPEs. NPEs account for about 80% of total APE use. Approximately, 500,000 tons are produced annually worldwide, 60% of which ends up in the aquatic environment¹¹⁵.

An expression of concern about the use of these substances as detergent ingredient has been expressed in the Regulation (EC) No 624/2004 on Detergents¹¹⁶ and to a certain extent prohibited on the grounds of poor degradability under the requirements concerning the degradability of surfactants.

APEO and APD are restricted in most of the schemes through the requirement that all the surfactants should be biodegradable under aerobic and anaerobic conditions. The restriction is explicitly requested in most of the European ecolabel schemes and Environmental Choice from NZ scheme as seen in Table 65.

Table 65 Comparison of excluded APEO and APD substances and their derivatives in revised ecolabelling schemes

Ecolabel scheme	LD	IILD	DD	IIDD	APC	HDD
APEO						
Current EU Ecolabel		X	X	X	X	
Nordic Labelling	X	X	X	X	X	
Bra Miljoval						
Env. Choice NZ	X	X	X	X	X	
Good Env choice AU					X	
Green Seal						
Singapore green						
APD						
Current EU Ecolabel		X	X	X		
Nordic Labelling	X	X	X	X	X	
Bra Miljoval						
Env. Choice NZ	X	X	X	X		
Good Env choice AU						
Green Seal						
Singapore green						

Declaring APEO and APD, both the compounds themselves and APEO derivatives as excluded substances simplifies the application process of exclusion and ensures that they are not present in the EU Ecolabel products (being the horizontal approach followed in the revision of the EU Ecolabel criteria).

7.10.1.4 Nitromusks and poycyclic musks

Artificial musks, like nitromusks are poycyclic musks are broadly used as inexpensive fragrances and fixatives in personal and household care products.¹¹⁷ Their use in Europe is apparently limited, which may not be the case outside of Europe. They have undesired health and environmental properties¹¹⁸. Some are classified as hazardous to the aquatic environment, and thus already excluded through the criterion on hazardous substances and mixtures above 100 ppm. A search of the ECHA C&L Inventory Database was conducted. Only some of the musks could be found,

¹¹⁵ M. Sole, M.J. Lopez de Alda, M. Castillo, C. Porte, K. Ladegaard-Pedersen, D. Barcelo, Estrogenicity determination in sewage treatment plants and surface waters from the Catalanian area (NE Spain), *Environ Sci Technol*, 34 (2000),. 5076–5083

¹¹⁶ Ditallow-dimethyl-ammonium-chloride (DTDMAC) and nonylphenol (including ethoxylates derivatives-APEs) are priority substances undergoing at Community level risk assessment activities, in accordance with Council Regulation (EEC) No 793/93 of 23 March 1993 on the evaluation and control of the risks of existing substances (3), and if necessary adequate strategies to limit the risks of exposure to these substances should therefore be recommended and implemented in the framework of other Community provisions

¹¹⁷ Taylor et al.: Human exposure to nitro musks and the evaluation of their potential toxicity: an overview. *Environmental Health* 2014, pp. 13:14.

¹¹⁸ Nordic Ecolabelling, Laundry detergents and stain removers, version 7. Background report, 2013.

nevertheless, these have harmonised classification as hazardous to the environment (see below table). Specific exclusion of nitro- and polycyclic musks is still proposed to be kept as a relevant preventive measure. This requirement excludes for instance the substances given in Table 66.

Table 66 Nitromusks and polycyclic musks

Substance	CAS-No		Classification in ECHA database	
Musk xylene	81-15-2	5-tert-butyl-2,4,6-trinitro-m-xylene ¹¹⁹	H201	Explosive; mass explosion hazard.
			H351	Carc. 2
			H400	Aquatic Acute 1
			H410	Aquatic Chronic 1 (harmonised entry)
Musk ambrette	83-66-9	4-tert-butyl-3-methoxy-2,6-dinitrotoluene		
Moskene	116-66-5	1,1,3,3,5-pentamethyl-4,6-dinitroindan		
Musk tibetine	145-39-1	1-tert-butyl-3,4,5-trimethyl-2,6-dinitrobenzene		
Musk ketone	81-14-1	4-tert-butyl-2'-6'-dimethyl-3',5'-dinitroacetaphenone	H351	Carc. 2
			H400	Aquatic Acute 1
			H410	Aquatic Chronic 1 (harmonised entry)
HHCb	114109-62-5			
	114109-63-6			
	1222-05-5 ¹²⁰		H400	Aquatic Acute 1
			H410	Aquatic Chronic 1 (harmonised entry)
	78448-48-3			
	78448-49-4			
AHTN	1506-02-1			
	21145-77-7			

Comparing with other ecolabel schemes, it can be seen that the exclusion of musks is included in most of the European schemes and other non-European ones such as Environmental Choice New Zealand or the Singapore Green when referring to consumer detergents. This restriction is also included in some industrial and institutional laundry detergent schemes.

Table 67 Exclusion of nitromusks in revised ecolabelling schemes

Ecolabel scheme	LD	IILD	DD	IIDD	APC	HDD
Current EU Ecolabel	x	x	x		x	
Nordic Labelling	x		x		x	
Bra Miljoval					x	
Env. Choice NZ	x	x			x	
Good Env choice AU					x	
Green Seal						
Singapore green	x		x			

¹¹⁹ <http://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/cl-inventory/view-notification-summary/21513>

¹²⁰ <http://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/cl-inventory/view-notification-details/106687/28852495>

7.10.1.5 Quaternary ammonium salts not readily biodegradable

Quaternary ammonium compounds are commonly used as biocides in a broad range of products, among them in detergents.¹²¹ In accordance with available information there are alternatives available (such as ester quats) which have better environmental properties. Quaternary ammonium compounds are not easily degradable and often very toxic to aquatic organisms, classified as H400 (acute), or if non-readily biodegradable – H410 (very toxic to aquatic life with long-lasting effects). Moreover, they are reported to cause certain allergic reactions.^{122,123} Restriction on use of quaternary ammonium salts as part of the APCs is included in many of the analysed schemes as reported in Table 68.

Table 68 Exclusion of quaternary ammonium salts that are not readily biodegradable in revised ecolabelling schemes

Ecolabel scheme	LD	IILD	DD	IIDD	APC	HDD
Current EU Ecolabel					x	
Nordic Labelling					x	
Bra Miljoval					x	
Env. Choice NZ	x	x	x		x	
Good Env choice AU					x	
Green Seal						
Singapore green						

7.10.1.6 Reactive chlorine compounds

Reactive chlorine compounds are used in a variety of different forms in detergent products. They include for instance sodium or calcium hypochlorite, organochlorides, chlorine gas, chloramines and chlorine dioxide. Due to their disinfectants/anti-bacterial properties they are mainly used in e.g. laundry detergents to remove stains and to bleach textiles. They are toxic, persistent and bioaccumulating, or can form such substances¹²².

According to ECHA C&L Inventory database, hypochlorites are classified as shown in Table 69.

Table 69 Classification of hypochlorite compounds in ECHA database

	Classification	
Sodium hypochlorite, solution CAS: 7681-52-9 ¹²⁴	H314	Causes severe skin burns and eye damage.
	H400	Very toxic to aquatic life.
calcium hypochlorite CAS 7778-54-3 ¹²⁵	EUH031	Contact with acids liberates toxic gas.
	H272	May intensify fire; oxidiser.
	H302	Harmful if swallowed.
	H314	Causes severe skin burns and eye damage.
	H400	Very toxic to aquatic life.

Use of chlorine based bleach is not common in household detergents but it is used e.g. as part of the detergent system in professional laundries. Furthermore, it has been stated that chlorine based bleach is sometimes used in association with low temperature wash in other parts of the world (e.g. in USA) to reduce bacterial growth.

¹²¹ Hegstad K1, Langsrud S, Lunestad BT, Scheie AA, Sunde M, Yazdankhah SP: Does the wide use of quaternary ammonium compounds enhance the selection and spread of antimicrobial resistance and thus threaten our health? *Microb Drug Resist.* 2010 Jun;16(2):91-104.

¹²² Nordic Ecolabelling of Dishwasher detergents and Rinsing agents Version 6.1, 19 March 2014 - 31 March 2018, available at: <http://www.nordic-ecolabel.org/criteria/product-groups/>

¹²³ Quaternary ammonium compounds, benzyl-C8-18-alkyldimethyl, chlorides is classified in ECHA database as: H302+H3012 Harmful if swallowed or in contact with skin, H314 Causes severe skin burns and eye damage, H318 Causes serious eye damage and H400 Very toxic to aquatic life. Information is available at: <http://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/cl-inventory/view-notification-details/48306/28846366>

¹²⁴ <http://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/cl-inventory/view-notification-details/86244/28780974>

¹²⁵ <http://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/cl-inventory/view-notification-details/49011/28650561>

It is proposed that as far as possible the exclusion of reactive chlorine compounds should be considered in the EU Ecolabel products, also as a preventive measure.

Comparing with other ecolabel schemes, the restriction of excluding reactive chlorine compounds is explicitly stated in Nordic Ecolabelling, Environmental Choice New Zealand and in DD and IIDD in the currently valid EU Ecolabel. Extension of this restriction to laundry products and APC is proposed.

Table 70 Exclusion of reactive chlorine compounds in revised ecolabelling schemes

Ecolabel scheme	LD	IILD	DD	IIDD	APC	HDD
Current EU Ecolabel			x	x		
Nordic Labelling		x	x	x	X	
Bra Miljoval						
Env. Choice NZ	x	x	x	x	X	
Good Env choice AU					X	
Green Seal						
Singapore green						

7.10.1.7 Perborates

Perborates (e.g. sodium perborate) are carriers for hydrogen peroxide. In aqueous solution they dissociate into sodium metaborate and hydrogen peroxide. This property of perborates makes it possible to incorporate hydrogen peroxide in detergents without major interactions with other detergent components.

Hydrates of perborate, tetra- and monohydrate fulfil important requirements for bleaching agents: they are affordable, safe to handle and non-damaging to fabrics¹²⁶.

Although perborate gives a good performance and has been utilized for decades, boron is blamed for damaging green algae, reeds and other aquatic beings such as trout fishes within a concentration of approximately 1mg/l of boron in surface waters.

Additionally perborates are classified as toxic for reproduction- Repr 1B, H360 (under the CLP regulation) and thus restricted under the general requirement for the restriction and limitation of chemicals. The classification of the perborates in accordance with ECHA is shown in Table 71.

Table 71 Perborates classified in ECHA database

Name	Classification	
Sodium perborate CAS 15120-21-5 ¹²⁷	H272	Ox. Sol. 2
	H302	Acute Tox. 4 *
	H318	Eye Dam. 1
	H335	STOT SE 3
	H360Df	Repr. 1B
Perboric acid, sodium salt CAS: 7632-04-4 ¹²⁸	H272	Ox. Sol. 2
	H302	Acute Tox. 4 *
	H318	Eye Dam. 1
	H331	Acute Tox. 3
	H335	STOT SE 3
	H360Df	Repr. 1B

Comparing other ecolabel schemes, the restriction on perborates is explicitly stated in the industrial and institutional detergents in the Nordic labelling and some schemes for consumer detergents in the current EU Ecolabel and the Singapore green scheme as reported in Table 72.

¹²⁶ Dorfer A., Lieser T., Hydrogen peroxide carriers, Proceedings of the 3rd World Conference on Detergents: Global Perspectives, The American Oil Chemists Society, 1994,

¹²⁷ <http://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/cl-inventory/view-notification-summary/11818>

¹²⁸ <http://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/cl-inventory/view-notification-summary/62020>

Table 72 Exclusion of perborates in revised ecolabelling schemes

Ecolabel scheme	LD	IILD	DD	IIDD	APC	HDD
Current EU Ecolabel			x			
Nordic Labelling		Boric acid and borates		x and borates		
Bra Miljoval						
Env. Choice NZ						
Good Env choice AU						
Green Seal						
Singapore green	X					

7.10.1.8 Formaldehyde

Formaldehyde is a known sensitizer and a known carcinogen, recently classified by WHO. Based on its classification¹²⁹:

- H301: toxic if swallowed,
- H311: toxic in contact with skin,
- H314: causes severe skin burns and eye damage,
- H317: may cause an allergic skin reaction ,
- H331: toxic if inhaled,
- H351: suspected of causing cancer.

should be restricted the use of formaldehyde in ecolabelled products. In accordance with the current list of H phrases formaldehyde and its classification as CMR substance, formaldehyde would automatically be excluded by general criterion on excluded and restricted substances and mixtures above 100 ppm.

Beside formaldehyde there are also **formaldehyde releasers** used as preservatives. They decompose to form formaldehyde upon degradation, even in amounts that can be above the classification limits for formaldehyde¹³⁰. There are also studies that demonstrate that people exposed to formaldehyde releasers may experience allergic reactions¹³¹, therefore they are a proposed subject to restriction. Several examples are briefly mentioned below:

7.10.1.9 5-bromo-5-nitro-1,3-dioxane (BND)

BND (5-bromo-5-nitro-1, 3-dioxane) is a formaldehyde releaser. BND is a nitro-substituted compound that is added as biocides to the cleaners at levels of 0.01 or 0.1% wt (e.g. to prevent biological oxidation in static cleaning tanks). BND is classified as H302 and H315 and it is combined with non-ionic detergents or proteins in mainly liquid reagents to obtain the most stable system.

7.10.1.10 2-bromo-2-nitropropane-1,3-diol (Bronopol)

Bronopol is also a formaldehyde releaser. It is used (depending on the detergents type, e.g. in washing-up liquids, detergents, fabric softeners, window cleaners or wax emulsions) in

¹²⁹ For details see the information contained at ECHA website: http://apps.echa.europa.eu/registered/data/dossiers/DISS-9d8ad2a1-0d51-13f7-e044-00144f67d249/AGGR-aa1957ab-42e8-43c6-856d-09b14245e171_DISS-9d8ad2a1-0d51-13f7-e044-00144f67d249.html#L-9cf4f64b-5725-4012-aad3-657063a4f5b6

¹³⁰ Final report. EU Eco-label for shampoo and soaps. Ecolabelling Norway. Eskeland., M.B, Svanes, E., 2006

¹³¹ http://share.eldoc.ub.rug.nl/FILES/root2/2010/Formretof/de_Groot_2010_Contact_Dermatitis.pdf

concentration range of 0.2 - 1.0 g/kg (0.02 - 0.10%)¹³². According to Annex VI of CLP and ECHA classification, it is, classified as¹³³

- H302: harmful if swallowed,
- H312: harmful in contact with skin,
- H318: causes serious eye damage,
- H335: may cause respiratory irritation,
- H400: Very toxic to aquatic life.

Bronopol has a moderate capacity for inducing skin allergies. It is a strong eye irritant and to be capable of causing difficulties in breathing and induce eczematous reactions in people who are already sensitized. As an explicitly excluded substance, it can be found in laundry detergents, HDDs and APCs in a maximum use concentration of 0.01%.

7.10.1.11 Diazolinidylurea

Diazolinidylurea is an antimicrobial preservative effective against a broad spectrum of bacteria, fungi and yeast. It may cause allergy on skin when it is exposed to these substances.

7.10.1.12 Sodium hydroxyl methyl glycinate (SMGH)

SHMG is a preservative that has been associated with allergic contact dermatitis, possibly due to the formaldehyde they release, although it is not a classified substance. Studies on SHMG in animals have demonstrated potential for sensitization and dermatitis, and formaldehyde –allergic patients have been reported to improve when products containing SHMG are avoided¹³⁴.

The above mentioned substances are excluded mainly in some or the detergent and cleaning product groups in the currently valid EU Ecolabel criteria. EDTA and musks are excluded from all the product groups, however for instance formaldehyde releasers only from APC and HDD or APEOs from all except of LD and DD.

In order to exclude in a harmonised way the undesired substances from products groups where they are actually used stakeholders feedback and expert knowledge is necessary. Some proposals are made in the technical background reports nevertheless, this criterion needs further development. Stakeholders are asked to support identifying in which other groups the above specifically excluded substances should be covered. This could be done filling in and/or commenting the Table 73.

¹³² http://microsites.schuelke.com/wet-wipe-preservation/leaflets/SMBronopolZTM_P_HH_EEN.pdf

¹³³ <http://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/cl-inventory/view-notification-details/117530/28769463>

¹³⁴ Sodium hydroxymethylglycinate, Rusell k, Jacob SE. Dermatitis. 2010 Apr 21 (2):109-10

Table 73 Ingredients to be excluded from EU Ecolabel detergent and cleaning products to be discussed at AHWG

Substance	IIDD	DD	IILD	LD	APC	HDD
EDTA	x	x	x	x	x	x
APEO and ADP	x		x		x*	x*
DTPA		x				
Quaternary ammonium salts not readily biodegradable						x
Reactive chlorine compounds	x	x				
Perborates		x				
5-bromo-5-nitro-1,3-dioxane					x	x
2-bromo-2-nitropropane-1,3-diol					x	x
Diazolinidylurea					x	x
Sodium hydroxyl methyl glycinate					x	x
Formaldehyde					x	x

*APEOs and derivatives

Beside the described substances and substance groups there are also other ingredients of concern. Stakeholders feedback, analysis of the existing schemes and own research on substances which shall potentially be excluded from EU Ecolabel products was conducted. A brief summary is given below:

7.10.1.13 LAS

LAS is a common surfactant used in cleaning products. It is not anaerobically biodegradable, thus it is excluded from some criteria through the requirement on anaerobic biodegradability of surfactants. In the Nordic labelling scheme it is banned in most detergent product groups (see Table 74).

Table 74 Exclusion of LAS in ecolabelling revised schemes

Ecolabel scheme	LD	IILD	DD	IIDD	APC	HDD
Current EU Ecolabel						
Nordic Labelling		x	x	x	X	
Bra Miljøval						
Env. Choice NZ						
Good Env choice AU					x	
Green Seal						
Singapore green						

7.10.1.14 Perfluorinated and polyfluorinated alkylated substances (PFAS)

PFAS are a big group of man-made highly fluorinated organic chemicals. They are used since the 1950s as components of surfactants and surface protectors in industrial and consumer products. PFAS with fluorinated carbon chains longer than six decompose to the very stable forms PFOS perfluoro octanesulfonic acid (PFOS) and perfluoro octanoic acid (PFOA) and similar compounds. Studies showed that these compounds may occur in some types of multipurpose cleaners as

fluorinated surfactants¹³⁵. The substances are persistent and bioaccumulating. They affect the biological processes in the body and are suspected to be endocrine disruptive¹³⁶.

7.10.1.15 Potential endocrine disrupters

*“An endocrine disrupter (ED) is an exogenous substance or mixture that alters function(s) of the endocrine system and consequently causes adverse health effects in an intact organism, or its progeny, or (sub)populations”.*¹³⁷

Endocrine system consists of a complex network of hormones, receptors and glands. Through providing a communication link, the endocrine system effectively controls growth, childhood development, regulation of bodily functions and reproductive processes. A change to this system can have undesirable effects on health. A particular area of focus is on the hormones which control gender development and reproduction. Evidence of reproductive and gender changes in animals have led to this concern^{138,139}.

However, the identification of endocrine disrupting substances is challenging due to the difficulty in distinguishing between endocrine activity and endocrine disruption. Under current legislation, ED can be identified as Substances of Very High Concern (SVHCs).

The European Commission is currently working on a proposal for science-based criteria for endocrine disruptors in response to the growing concern over the potential negative impacts of these substances.¹⁴⁰ At present, a public consultation and road map¹⁴¹ have been launched as well as a priority list of substances for further evaluation. At the time of writing this document, just the consultation forum was opened and will have finished on 16th of January 2015.

Along the consideration on the classification of EDs the following two categories (based on strength of evidence and additional considerations in a weight of evidence approach) were planned:

- Category 1: Endocrine disruptors,
- Category 2: Suspected endocrine disruptors.

Emissions to the aquatic environment are the primary source of EDs. Some potential endocrine disrupter substances may already be restricted or excluded through:

- (a) Article 6(6) of Regulation (EC) No 66/2010
- (b) Hazardous substances and mixtures and
- (c) Substances of Very High Concern.

Nevertheless, recognising the importance of this issue, setting a specific exclusion of ED substances shall be considered in this criteria revision and is initially proposed for restriction. This requirement was also considered in the recent revision of the EU Ecolabel criteria for rinse-off cosmetic products but could not be implemented yet as the work of responsible services was ongoing.

Some examples of substances that are potential endocrine disruptors include: triclosan, nonylphenol (NP) or octylphenol¹⁴². They are banned for use in several EU Ecolabel schemes for detergents, for instance in Nordic Ecolabelling, New Zealand Environmental Choice and Green Seal. An overview of the approaches taken by different ecolabel schemes is presented in Table 75.

¹³⁵ Environmental and Health Risk Assessment of Perfluoroalkylated and Polyfluoroalkylated Substances (PFASs) in Sweden available at <http://www.naturvardsverket.se/Documents/publikationer6400/978-91-620-6513-3.pdf>

¹³⁶ Perfluorooctane Sulphonate (PFOS) OSPAR Commission 2005 (2006 Update) available at http://www.ospar.org/documents/dbase/publications/p00269/p00269_bd%20on%20fos%20_2006%20version_.pdf

¹³⁷ WHO/UNEP State of the Science of Endocrine Disrupting Chemicals 2012 update.

¹³⁸ Dimitra A. Lambropoulou, Leo M. L. Nollet: Transformation Products of Emerging Contaminants in the Environment: Analysis, Processes, Occurrence, Effects and Risks, John Wiley & Sons, 2014.

¹³⁹ ECHA Endocrine Disruptor Expert Group, <http://www.echa.europa.eu/en/web/guest/addressing-chemicals-of-concern/substances-of-potential-concern/substance-specific-groups/endocrine-disruptor-expert-group>

¹⁴⁰ For more information see http://ec.europa.eu/environment/chemicals/endocrine/index_en.htm

¹⁴¹ Titled: "Defining criteria for identifying Endocrine Disruptors in the context of the implementation of the Plant Protection Product Regulation and Biocidal Products Regulation", available at http://ec.europa.eu/smart-regulation/impact/planned_ia/docs/2014_env_009_endocrine_disruptors_en.pdf [accessed November 2014].

¹⁴² Study on enhancing the Endocrine priority list with a focus on low production volume chemicals, report to DG Environment, DHI Water & Environment, 2007. Available from: http://ec.europa.eu/environment/chemicals/endocrine/pdf/final_report_2007.pdf

Table 75 Approaches to restricting endocrine disruptors taken by various Ecolabel schemes

Scheme	Criterion
Nordic Ecolabelling	The product must not contain the following compounds: Substances on the European Union's list of 118 substances documented to cause endocrine disruption or potential endocrine disruption: http://ec.europa.eu/environment/chemicals/endocrine/pdf/final_report_2007.pdf
Env. Choice NZ	Commercial and institutional cleaning products shall not be formulated or manufactured with substances (active content only) that are: Classified as Category 1 or Category 2 under the European Commission priority list developed under the Community strategy for endocrine disruptors.
Good Env. Choice	No requirements
Green Seal	The undiluted product shall not contain any components that are on the U.S. Environmental Protection Agency (EPA) List of Chemicals for Tier 1 Screening that have been shown to disrupt hormones (e.g., have estrogen- or androgen-mediated effects), tested according to the EPA Series 890 – Endocrine Disruptor Screening Program Test Guidelines.
Current EU Ecolabel	No requirements

Comparing this policy line to criteria of other ecolabelling schemes, it is revealed that the Nordic Labelling and the Environmental Choice (NZ) scheme have followed this approach and they explicitly refer the strategy on EDs and ban Category 1 and Category 2 of the priority list of substances for further evaluation of their role in endocrine disruption¹⁴³ (using the precautionary approach in a broad number of detergents).

The proposed strategy for the revision of the EU Ecolabel schemes for detergents is to observe the development of the EC in this area and, if considered feasible, to exclude the use of substances on the potential endocrine disruptors. More information on this subject will be provided after the public consultation is closed and the results available.

7.10.1.16 Triclosan

The broad-spectrum antimicrobial activity of 5-chloro-2-(2,4-dichlorophenoxy)phenol) or triclosan has led to its incorporation as a preservative in an extended range of product formulations intended for home use such as detergents. Triclosan is classified as an agent that may cause adverse environmental effects and has sensitizing properties. Based on ECHA C&L database it has a harmonised cl classification with the following hazards¹⁴⁴.

- H410: very toxic to aquatic life with long lasting effects,
- H400: aquatic toxic
- H315: causes skin irritation and
- H319: causes serious eye irritation.

Triclosan is used also in cosmetic products and is excluded from EU Ecolabel for rinse-off cosmetics. Its exclusion is also proposed for detergents.

7.10.1.17 Microorganisms/enzymes

The use of enzymes in detergent products is not a recent innovation; in fact they have been used for this purpose since the 60s. Enzymes are proteins which act as catalysts to increase the rate of chemical reaction. In detergent products they are used for removal of stains and for improving washing performance at low temperatures. They function by targeting difficult stains and breaking them down into smaller parts which can be more easily removed. As catalysts they do not lose

¹⁴³ For the list please see: http://ec.europa.eu/environment/chemicals/endocrine/strategy/being_en.htm.

¹⁴⁴ http://apps.echa.europa.eu/registered/data/dossiers/DISS-9ea3b5cc-80fb-15ea-e044-00144f67d031/AGGR-09e9b0f0-bf29-4975-8fbea3a2dd0ac2be_DISS-9ea3b5cc-80fb-15ea-e044-00144f67d031.html#L-137752f6-fbea-4638-b8d8-acce5e212979

functionality after use, therefore they can replace large quantities of other chemicals which perform the same function.

The enzymes used in detergents include: proteases (used to break down protein stains), lipolases (used to break down fat stains) and amylases (used to break down starches and other carbohydrate based stains)¹⁴⁵. Enzymes have been typically used as ingredients in industrial and institutional laundry detergents and dishwasher detergents for professional use.

In terms of environmental performance enzymes are relatively inert as they are biodegradable and are unlikely to be dangerous to the aquatic environment.¹⁴⁶ However, enzymes can cause a respiratory allergy response in some people. As such some enzymes were classified as sensitising substances with the risk phrase R42 'May cause sensitisation via inhalation', but they are not harmonized under a GHS classification. The risk of using microorganisms and/or enzymes is that they can be inhaled. This risk is decreased if the enzymes are used in a liquid or in another dust free form.

Within the current EU Ecolabel criteria for the product groups under revision, in all criteria there is a derogation for enzymes for the classification with H317 (May cause allergic skin reaction) and H334 (May cause allergy or asthma symptoms or breathing difficulties if inhaled). In general enzymes are exempt from requirements on sensitising substances, since there are few enzymes which are not classified as sensitising. In industrial and institutional laundry and dishwasher detergents there is additionally a requirement that: 'Enzymes must be in liquid form or dust-free granulate. Enzymes must be free from micro-organism remnants from manufacture'.

In Nordic Ecolabelling criteria for IIDD there is also a limitation on the allowed format products containing enzymes: enzymes are not permitted in products which are dosed by sprays, since this entails a greater risk of exposure and therefore respiratory problems than products in other forms. And in its criteria for IILD manufacturers are required to have in place appropriate health and safety measures to prevent employees working from exposure.

Of especial importance is the use of subtilisins (CAS 9014-01-1) that are proteolytic enzymes, mainly used in detergents and household cleaning products to remove proteinaceous deposits and stains¹⁴⁷. Subtilisins are of bacterial origin, produced by a fermentation process and active from pH 6 to 11 (mainly pH 9-11). Subtilisins show good solubility but little stability in water. The total amount of subtilisin produced and used in EU in 2002 was about 1,000 tons of pure enzyme and mainly (>90% of the production) used in automatic dish wash detergents and in all types of powder and liquid household laundry detergents, and in laundry bleach additives. They are also used in industrial cleaning and laundering products. Its concentration in household detergent and cleaning products is very low and depends on the type of product (0.007-0.1 %)

Subtilisins are readily and ultimately biodegradable in the environment, being removed to a very high extent (> 99%) in sewage treatment plants. However, these enzymes are of concern from the environmental point of view as they are inactivated to a large extent under washing or cleaning conditions (an 80% reduction of protease activity in the washing process was conservatively assumed). Based on evidence that the inactivation of proteases is equivalent to the loss of their ecotoxic properties, the risk assessment has to take this fact into account.

The existing data (2010) on hazard phrases of subtilisin classified the substance as H400 aquatic acute by self-classification when it was registered under ECHA¹⁴⁸. This classification follows a derogation, in 2011, from the criteria for H400 aquatic acute from the relevant criteria documents for Nordic and EU Ecolabelling. Regulation (EU) No 286/2011 added new classification criteria for long-term aquatic hazard based on chronic aquatic toxicity. On the basis of the new criteria, a recent study conducted by the REACH SIEF for subtilisin indicated that subtilisin should be classified as Aquatic Chronic 2 (H411) even though it is readily biodegradable.

¹⁴⁵ What are enzymes and why do we use them in laundry detergents? Science in the box, P&G website 2012 http://www.scienceinthebox.com/de/en_UK/safety/whatareenzymes_en.html

¹⁴⁶ Collection of information on enzymes, European Commission, 2002. <http://ec.europa.eu/environment/archives/dansub/pdfs/enzymerepcomplete.pdf>

¹⁴⁷ SUBTILISIN – HERA Report available at: [http://www.heraproject.com/files/22-F-07_PROTEASE_HERA_Final%20Edition%20\(unsecured%20-%20PDF-A-1b\).pdf](http://www.heraproject.com/files/22-F-07_PROTEASE_HERA_Final%20Edition%20(unsecured%20-%20PDF-A-1b).pdf)

¹⁴⁸ <http://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/cl-inventory/view-notification-details/22165/28812150>

7.10.1.18 Nanosilver

The European Commission¹⁴⁹ defines nanomaterials as:

a natural, incidental or manufactured material containing particles, in an unbound state or as an aggregate or as an agglomerate and where, for 50 % or more of the particles in the number size distribution, one or more external dimensions is in the size range 1 nm-100 nm.

In specific cases and where warranted by concerns for the environment, health, safety or competitiveness the number size distribution threshold of 50 % may be replaced by a threshold between 1 and 50 %.

Along the consultation several stakeholders requested investigating the use of nanomaterials in detergent product groups. It is agreed at the EU Ecolabel scheme level that nanomaterials shall only be addressed on a specific substance basis.

In detergent products, according to information collected and received in the stakeholder's feedback, the following nanomaterials are used: silver, silicon dioxide, synthetic amorphous silicon dioxide and titanium dioxide.

For instance, in the recent criteria for rinse-off cosmetics exclusion of nanosilver was introduced. Silver nanoparticles (AgNP) reveal high ecotoxicity even at very low effect concentrations. AgNP are classified as very toxic towards aquatic organisms (very low values of EC50, e.g. for algae of 4 µg/l and also for crustaceans – far below 1 mg/l have been reported). Another important aspect is that at low concentrations inhibition of nitrifying bacteria can occur and the function of wastewater treatment plants may be affected due to the presence of AgNP¹⁵⁰. Therefore, in the discussion on the revised criteria for detergents and cleaning products the nano-silver is proposed to be excluded. Further analysis on specific uses and related environmental impacts of single nanomaterials used in detergents and cleaning products is needed and, if relevant, information will be provided in later stage of the process.

7.10.1.19 Summary

Besides the already covered in one or few detergent and cleaning product groups substances and groups of substances (i.e. EDTA, APEO and ADP, DTPA, nitromusks and polycyclic musks, quaternary ammonium salts, reactive chlorine compounds, perborates, 5-bromo-5-nitro-1,3-dioxane, 2-bromo-2-nitropropane-1,3-diol, diazolinidylurea, sodium hydroxyl methyl glycinate and formaldehyde) additional ingredients, not yet covered by the scope of the restriction on specific incoming substances and mixtures were described above. Stakeholders feedback is sought regarding the need of extending the scope by one of the above mentioned (or other relevant) substance from one or more of the product groups.

For the moment minor amendments are made to this criterion. It is presented for in the TBRs for specific product groups. Horizontally it is proposed to exclude:

- Hydroxyisohexyl 3-cyclohexene carboxaldehyde (HICC), Atranol and Chloroatranol; considered as unsafe to consumers (see section on fragrances)

Additional substances may be added in this criterion following the 1st physical consultation process and further development.

7.10.2 Hazardous substances and mixtures

This (and the following) sub-criterion are linked with the previously mentioned Article 6(6) and 6(7) of the EU Ecolabel Regulation (EC) No 66/2010. Its text is agreed and aligned horizontally for all detergent and cleaning product groups.

¹⁴⁹ Commission Recommendation of 18 October 2011 On the Definition of Nanomaterial (2011/696/EU), available online at: <http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:275:0038:0040:EN:PDF>.

¹⁵⁰ Mikkelsen et al.: Survey on basic knowledge about exposure and potential environmental and health risks for selected nanomaterials, Danish Environmental Protection Agency, 2011.

In this revised criterion version, the verification and assessment was amended in order to indicate clearly which proof is required for substances and mixtures present in the product formulation to confirm the compliance with the requirements. This is in line with recently voted criteria for ROCs. In this sense the "assessment and verification" of the section b asks for:

- 1) Compliance for any in-going substance or mixture present at concentration greater than 0.010% in the product, including preservatives, colouring agents and fragrances by declaring that the ingredients are not classified with one or more hazard statements listed in the table below. In-going substances, in accordance with the definition provided in Technical Annexe (Section 7.4) Definitions, are biocides, fragrances, colouring agents and mixtures thereof regardless of concentration in the final formulation and substances and mixtures intentionally added, by products and impurities from raw materials, the concentration of which equals or exceeds 0,010% by weight of final formulation.
The declaration should be supported by technical information related to the forms and physical states of the ingoing substances and/or mixtures as present in the detergent or cleaning product. This supporting information differs if the substances have been registered under Regulation (EC) No 1907/2006 and/or if they have a harmonised CLP classification.
- 2) In the case of mixtures: safety data sheets (SDSs) should be provided. If SDSs are not available then the calculation of the mixture classification shall be provided according to the rules under Regulation (EC) No 1272/2008 and the information relevant to the mixtures hazard classification according to Annex II to Regulation (EC) No 1907/2006
- 3) Finally, a declaration on the presence of ingoing substances that fulfil the derogation conditions shall be provided and supported by declarations from the producers of the raw materials. Concentrations of these ingoing substances in the final product should be included.

The wording of the main criteria body and the assessment and verification is proposed as follows:

Criterion X – "Hazardous substances and mixtures"

According to Article 6(6) of Regulation (EC) No 66/2010, the EU Ecolabel may not be awarded to any product that contains substances meeting criteria for classification with the hazard statements specified in Table xx in accordance with Regulation (EC) No 1272/2008 of the European Parliament and of the Council or Council Directive 67/548/E or substances referred to in Article 57 of Regulation (EC) No 1907/2006.. However, if information on substances cannot be obtained, the classification rules for mixtures apply.

Substances or mixtures which change their properties through processing and thus become no longer bioavailable, or undergo chemical modification in a way that removes the previously identified hazard are exempted from criterion x(b)

Table x – Hazard statements

GHS Hazard Statement
H300 Fatal if swallowed
H301 Toxic if swallowed
H304 May be fatal if swallowed and enters airways
H310 Fatal in contact with skin
H311 Toxic in contact with skin
H330 Fatal if inhaled
H331 Toxic if inhaled
H340 May cause genetic defects
H341 Suspected of causing genetic defects
H350 May cause cancer
H350i May cause cancer by inhalation
H351 Suspected of causing cancer
H360F May damage fertility
H360D May damage the unborn child
H360FD May damage fertility. May damage the unborn child
H360Fd May damage fertility. Suspected of damaging the unborn child
H360Df May damage the unborn child. Suspected of damaging fertility

H361f Suspected of damaging fertility
H361d Suspected of damaging the unborn child
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
H362 May cause harm to breast fed children
H370 Causes damage to organs
H371 May cause damage to organs
H372 Causes damage to organs through prolonged or repeated exposure
H373 May cause damage to organs through prolonged or repeated exposure
H400 Very toxic to aquatic life
H410 Very toxic to aquatic life with long-lasting effects
H411 Toxic to aquatic life with long-lasting effects
H412 Harmful to aquatic life with long-lasting effects
H413 May cause long-lasting harmful effects to aquatic life
EUH059 Hazardous to the ozone layer
EUH029 Contact with water liberates toxic gas
EUH031 Contact with acids liberates toxic gas
EUH032 Contact with acids liberates very toxic gas
EUH070 Toxic by eye contact
Sensitising substances
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
H317: May cause allergic skin reaction

This criterion applies to all ingredients present in concentrations $\geq 0.010\%$, including preservatives, colouring agents and fragrances.

For EU Ecolabel xxx products, the substances in Table y are exempted from the obligation in Article 6(6) of Regulation (EC) No 66/2010 following application of Article 6(7) of the same Regulation.

Table y – Derogated substances - To be discussed in the 1st AHWG meeting

Assessment and verification: the applicant shall demonstrate compliance with criterion x (b) for any ingoing substance or mixture present at concentrations greater than 0.010% in the product.

A declaration of compliance shall be provided by the applicant supported, where appropriate, by the declarations from producer(s) of the raw materials that none of these ingoing substances and/or mixtures meet the criteria for classification with one or more of hazard statements listed in Table xx in the form(s) and physical state(s) they are present in the product.

The following technical information related to the form(s) and physical state(s) of the ingoing substances and/or mixtures as present in the product shall be provided to support the declaration of non-classification:

(i) For substances that have not been registered under Regulation (EC) No 1907/2006 and/or which do not yet have a harmonised CLP classification: Information meeting the requirements listed in Annex VII to that Regulation;

(ii) For substances that have been registered under Regulation (EC) No 1907/2006 and which do not meet the requirements for CLP classification: Information based on the REACH registration dossier confirming the non-classified status of the substance;

(iii) For substances that have a harmonised classification or are self-classified: safety data sheets where available. If these are not available or the substance is self-classified then information shall be provided relevant to the substances hazard classification according to Annex II to Regulation (EC) No 1907/2006;

(iv) In the case of mixtures: safety data sheets where available. If these are not available then calculation of the mixture classification shall be provided according to the rules under Regulation (EC) No 1272/2008 together with information relevant to the mixtures hazard classification according to Annex II to Regulation (EC) No 1907/2006.

For substances listed in Annexes IV and V to Regulation (EC) No 1907/2006, which are exempted from registration obligations under point (a) and (b) of Article 2(7) of that Regulation, a declaration to this effect by the applicant shall suffice to comply with criterion 3(b).

A declaration on the presence of ingoing substances that fulfil the derogation conditions shall be provided by the applicant, supported, where appropriate, by declarations from the producer(s) of the raw materials. Where required for the derogation, the applicant shall confirm the concentrations of these ingoing substances in the final product.

Derogations

Derogations can be granted in specific circumstances indicated in Article 6(7) of the Regulation. Information is collected to justify the need for keeping all the derogations, for the time being little feedback has been received. The information below reflects the feedback received so far from the stakeholders and information collected up to now.

7.10.2.1 Surfactants derogated for H400, H411 and H412

The derogation for surfactants classified with H411 (for HDD only) and H412 (for all detergents) was introduced in response to the classification of many surfactants following GHS revision implemented in the 2nd ATP to CLP (Regulation (EU) No 286/2011) which came into force on 1st December 2012. AISE reported in 2013 that this reclassification affected 31 out of 58 surfactants on the DID List 2007. As such the choice of surfactants for EU Ecolabel products would have been severely restricted, if the derogation was not implemented¹⁵¹.

The classification as H400 indicates that the substances present "Aquatic Acute I" toxicity, which corresponds to, in broad terms, L(E)50 \geq 1mg/l. Three anionic surfactants listed in the DID list would be classified, 13 non-ionic, 1 amphoteric, and 1 cationic, but we cannot forget that banned substances are also listed in the DID list.

The classification as H412 indicates that the substances present are toxic to aquatic life with long-lasting effects with category III. These kinds of surfactants classified with H412 are exempted from the requirement, provided that they are readily degradable and anaerobically degradable. At present the derogation for surfactants in all detergents and cleaning products are as follows (see Table 76):

Table 76 Derogation for surfactants classified as H400, H411 and H412

	Decision	Derogation	Classified
DD	2011/263/EU	Surfactants in total concentrations <25% in the final product	H400
LD	2011/264/EU	Surfactants in total concentrations <25% in the final product (*)	H412
HDD	2011/382/EU	Surfactants in total concentrations <25% in the final product ^(a)	H400
		Surfactants in total concentrations <25% in the final product (')	H412
		Surfactants in total concentrations <2,5% in the final product (')	H411
APC	2011/383/EU	Surfactants in total concentrations <25% in the final product ^(a)	H400
		Surfactants in total concentrations <25% in the final product (')	H412
IILD	2012/720/EU	Surfactants in total concentrations <25% in the final product	H400
		Surfactants in total concentrations <25% in the final product	H412
IIDD	2012/721/EU	Surfactants in total concentrations <25% in the final product	H400
		Surfactants in total concentrations <25% in the final product ^(b)	H412

(*) This derogation is applicable provided that they are ready degradable and anaerobically degradable

^(a) the percentage must be divided by the M-factor¹⁵² established in accordance with the Regulation (EC) No 1272/2008

¹⁵¹ For further information on the surfactants classified with H400 and H412 see: <http://www.cefic.org/Documents/Industry%20sectors/CESIO/CESIO-Environmental-classification-of-Surfactant-according-to-2nd-ATP.pdf>

¹⁵² Regulation (EC) 1272/2008: "M-factor' means a multiplying factor. It is applied to the concentration of a substance classified as hazardous to the aquatic environment acute category 1 or chronic category 1, and is used to derive by the summation method the classification of a mixture in which the substance is present."

M-factors are either given in Part 3 of Annex VI of that regulation (very few of them are actually listed) or they can be calculated based on L(E)C50 or NOEC¹⁵² :

L(E)C50	M-factor	NOEC	M-factor – NRD (RD) ¹⁵²
0.1 < L(E)C50 \leq 1	1	0.01 < NOEC \leq 0.1	1 (-)
0.01 < L(E)C50 \leq 0.1	10	0.001 < NOEC \leq 0.01	10 (1)
0.001 < L(E)C50 \leq 0.01	100	0.0001 < NOEC \leq 0.001	100 (10)
	(and so forth)		

It should be noted that as of the current DID list, not a single anionic surfactant or non-ionic surfactant falls below the 0,1 threshold, meaning that their M-factors are all 1 and have no incidence of how their presence percentage is calculated. Only one cationic surfactant (Alkyl trimethyl ammonium salts) would receive an M-factor of 10 given that its L(E)50 is of 0.1.

When NOEC is considered, one anionic and one non-ionic surfactant would receive an M-factor of 10, besides the one also pointed out by L(E)50.

(b) this derogation is applicable provided that surfactants comply with criterion 3(b) and they are anaerobically degradable.

The current limits on the derogation for surfactants allow detergents to easily comply with this criterion. Table 77 shows the ranges of percentages of surfactants included in different products.

Table 77 Surfactants content (round %) in the product groups¹⁵³

Product type	Surfactants	
	Min	Max
Domestic automatic dishwasher detergent	1	5
Heavy duty laundry detergent	10	25
Conventional laundry detergent	10	15
Compact laundry detergent	10	25
Heavy duty laundry tablets zeolite based	13	18
Heavy duty laundry tablets phosphate based	15	18
Heavy duty unstructured liquid laundry detergent	22	48
Heavy duty structured liquid laundry detergent	16	35
Delicate textiles laundry detergent	7	30
Woolen laundry detergent	12	40
Curtains laundry detergent	12	28
APC	17	
APC 2	14	
APC 2	24	
Kitchen cleaner spray	<5 ¹⁵⁴	
Window cleaner	15 ¹⁵⁵	
Scouring cleaner 1	3.5	
Scouring cleaner 2	4	
Scouring cleaner 3	3	
Hand dishwashing detergent	9	16
Concentrated hand dishwashing detergent	20	39
Red figures are those above the current threshold of the surfactants derogation		

As seen, most of the detergents, even if we consider the higher surfactant content will comply with this criterion without making any effort. Information is hard to come by for industrial and institutional products but they should technically be more concentrated than consumer products and therefore they could possibly have more surfactants in them.

Other findings from this research show that given the 25% threshold and the fact that M-factors are not applicable, all surfactants in liquid detergents will get the derogation, unless they are found in APC and/or HDD and have an extremely low L(E)_{CS0}.

The only issue that might be raised is the fact that we are seeing a trend towards more compact formulations and therefore the percentage of surfactants is increasing. But that does not mean that all the surfactants included in the formulation should fall under the classified with H400 and consequently that all surfactants should be allowed. As an example, Ecover standards are labelling and making distinctions for those detergents without any H400 surfactants as reported in the Preliminary report. This indicates that formulations of detergents without H400 classified surfactants are possible.

Professional laundry machines apply much higher mechanical action than domestic machines allowing reducing water, energy and detergent consumption by 75%. With the weaker non classified defoaming type of non-ionic surfactant, more surfactants would need to be added into the product. In professional detergents combinations of different types of surfactants are often needed in order to cover different types of soiling and also different washing temperatures to

¹⁵³ Ullmann's encyclopedia

¹⁵⁴ ISO LCA Kitchen cleaners (also has for regular kitchen cleaner but inconclusive of actual concentration of surfactants.

¹⁵⁵ <http://www.google.com/patents/US5362422>

which the detergents are applied. This makes it difficult to find alternatives to the effective surfactants classified H400.

Table 78 provides a comparison of the wording included in other national Ecolabels and environmental schemes

Table 78 Comparison of the restriction on surfactants classified with H400, H411 or H412

	Criteria
Nordic Swan	DD All surfactants must be readily degradable (aerobically) . All surfactants classified as environmentally hazardous* must also be anaerobically degradable . <i>*Classified as environmentally hazardous with H410, H411, H412, H413.</i>
	IIDD All surfactants (irrespective of function) must display ready biodegradability under aerobic conditions in accordance with OECD Guidelines for the Testing of Chemicals, test no. 301 A F, or other equivalent scientifically proven test method. This is also a legal requirement for this category of products. All surfactants must display biodegradability under anaerobic conditions according to ISO 11734 , ECETOC no. 28 or equivalent test method. Documentation shall primarily refer to the DID list of 2007 or later. For surfactants not covered by the DID list, other documentation such as test reports and literature references may be submitted.
	LD Surfactants classified with H412 are exempted from the requirement, provided that they are readily degradable* and anaerobically degradable** . <i>*In accordance to the DID-list or test method No. 301 A-F or No. 310 in OECD guidelines for testing of chemicals or other equivalent test methods.</i> <i>** In accordance to the DID-list or ISO 11734, ECETOC No. 28 (June 1988) or other equivalent test methods, where a minimum of 60% degradability under anaerobic conditions is achieved.</i>
	IILD All surfactants must be readily degraded aerobically in accordance with Test Method No. 301 A-F in the OECD Guidelines for Testing of Chemicals or other equivalent test methods. All surfactants must be anaerobically degradable, which means at least 60% degradability under anaerobic conditions , in accordance with ISO 11734, ECETOC no. 28 or equivalent test methods. Documentation must primarily refer to the DID List dated 2014 or later. For surfactants that are not covered by the list, other documentation, such as test reports or literature references, may be used
	HDD Substances that are classified as environmentally hazardous are only permitted in limited quantities in the product, Surfactants classified with H411 or H412 are exempted from the requirement, provided that they are readily degradable* and anaerobically degradable** .
	APC The use of substances classified with any of the hazard statements H410, H411 or H412 is limited. Surfactants classified with H412 are exempted from the requirement, provided that they are readily biodegradable* and anaerobically degradable** .
Env good choice NZ	Substances that are classified under Hazardous Substances and New Organisms (HSNO) Act as 9.1A ("Substances that are very ecotoxic in the aquatic environment") must be readily biodegradable and not potentially bioaccumulative. Therefore H400 surfactants are technically allowed if they meet the other criteria.
Ecologo	Only mention of ecotoxicity is: "The laundry detergent or fabric softener shall demonstrate No Observable Effects at the expected release concentration using a battery of toxicity tests using three different species of divergent taxonomic and ecological ranks." (so far have not checked for the other products but the requirements should be about the same).
Green Seal	only specifies that the "product as used" (e.g. diluted to the correct level it should be diluted) shall not be toxic to aquatic life and that means that the lowest available and representative LC50 for any of the three species should be greater or equal to 100 (for LD, APC, HDD).
Good Env Choice AU	H400 substances banned if >1% but H400 surfactants <25% are allowed if they are not excluded by any other classification.

AISE charter	There is nothing in the criteria specifically about excluded substances but they might be limited through the ESC tool, which does have some limitations on ecotoxicity
ACI Charter	The products should be safe for humans and the environment but no specific information is given on any possible excluded substances. The ACI has a list of ingredients that can be found in detergents but does not give any information on whether those are good or bad for the environment.

Summarizing the data presented in this section, stricter limits to reduce the use of surfactants classified with H400, H410, H411 and H412 hazard phrases are seen to be advisable, at least in those products for private use.

Regarding the thresholds and the opposite trends in the market (on one hand detergents are becoming more concentrated and on the other hand, H400 free surfactant detergents are being promoted and sought by the consumers), it is difficult to come up with a relevant threshold for each of the product groups under revision.

Information provided by other national schemes shows that a feasible way of limiting the environmental hazard of surfactants in the ecosystem but still allowing the use of surfactants that can fall under H-phrase classification is to require being degradable aerobically and anaerobically. In this way, the exposure to those substances is restricted.

The proposed wording for this issue to be further discussed during the 1st AHWG meeting:

Criterion X – "surfactants"
<p>All the surfactants must be readily degradable.</p> <p>Surfactants classified with H410, H411 and H412 are derogated from the criterion on Excluded and limited substances and mixtures, section b, provided that they are both readily and anaerobically degradable.</p> <p>Degradability shall be demonstrated by reference to the most updated DID list. If DID list lacks the relevant data for surfactants, data may be taken from the safety data sheet on condition that the data is reliable and calculations must be made in accordance with section B of the DID list.</p> <p>It is also permitted to refer to analogous observations, as long as they are carried out by a competent third party, and refer to relevant data from literature that has been subjected to scientific scrutiny.</p> <p>Assessment and verification</p> <p>The applicant shall provide a declaration of surfactants that are exempted from the requirement including the quantity, classification and content in percentage by weight of those substances classified as H410, H411 and/or H412 and degradability.</p>

7.10.2.2 Biocides used for preservation purposes

The use of biocides is restricted in the current EU Ecolabel detergents as given below:

Table 79 Comparison of the derogations included in the current criteria sets

	Decision	Derogation	Classified
DD LD	2011/263/EU	Biocides used for preservation purposes (*)	H410
	2011/264/EU		H411
			H412
IIDD IILD	2012/721/EU	Biocides for preservation purpose <i>(only for liquids with pH between 2 and 12 and maximum 0.10% w/w of active material)</i>	H331
	2012/720/EU		H334
			H317
			H400
APC	2011/383/EU	The product may only include biocides in order to preserve the product, and in the appropriate dosage for this purpose alone. This does not refer to surfactants, which may also have biocidal	H410 H411
HDD	2011/382/EU		

		properties Biocides, either as part of the formulation or as part of any mixture included in the formulation, that are used to preserve the product and that are classified H410 or H411 in accordance with Directive 67/548/EEC, Directive 1999/45/EC of the European Parliament and of the Council or Regulation (EC) No 1272/2008, are permitted but only if their bioaccumulation potentials are characterised by log Pow (log octanol/water partition coefficient) < 3,0 or an experimentally determined bioconcentration factor (BCF) ≤ 100.	
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(*) This derogation is applicable provided that biocides' bioaccumulation potentials are characterised by log Pow (log octanol/water partition coefficient) < 3.0 or an experimentally determined bioconcentration factor (BCF) ≤ 100.

7.10.2.3 Fragrances

The use of perfumes is linked to the consumer perception and preference of certain cleaning products. Fragrances are widely used as ingredients which give the detergents a pleasant smell and/or to mask possible unpleasant smell.

Fragrances may be a cause of allergy and according to Videncenter for allergier, 2010¹⁵⁶ around 4% of the adult population is suffering from fragrance allergy. Most of the fragrances are furthermore classified as hazardous for the aquatic environment. Due to this classification and the CDV criterion, most of the fragrances use is limited in EU Ecolabel products.

For that reason the current derogation stands for fragrances classified with H412 for consumer products, namely consumer laundry detergents, consumer detergents for dishwashers, all-purpose cleaners and sanitary cleaners and hand dishwashing detergents.

Table 80 Current derogation for fragrances classified with H412

Product group	Decision	Derogation	Classified as
Detergent for Dishwashers	2011/263/EU	Fragrances	H412
Laundry Detergents	2011/264/EU		
Hand dishwashing detergents	2011/382/EU		
All-purpose cleaners and sanitary cleaners	2011/383/EU		

Due to the presence in the market of fragrances-free products for private use and the classification of these substances with H-phrases it is required to the industry to provide data regarding the need of keeping this derogation in the revision of the EU Ecolabel criteria.

7.10.2.4 Enzymes

The use of enzymes and specifically subtilisins as reported is common in detergents and household cleaning products. These proteases are used in low concentrations in cleaning products (0,007% to 0,1% wt) and in terms of environmental performance, they are readily and ultimately biodegradable and as a consequence are removed to a very high extent from sewage treatment plants.

The current derogation stands for enzymes that are classified with the H-phrases shown in Table 81. Stakeholder requested that derogation should be added for enzymes classified with H400 due to the classification of several proteases (there is already a derogation granted for IIDD and IILD). However at this stage it has not been possible to gather enough evidence to support derogation and therefore this point will bring for discussion during the 1st AHWG meeting. Industry members are encouraged to fill up the template enclosed at the end of this technical annex, if derogation is considered necessary.

¹⁵⁶ Maria Vølund Heisterberg, PhD Thesis: Fragrance allergy Diagnosis, causes and quality of life University of Copenhagen Gentofte Hospital Denmark 2013

Table 81 Current derogation for enzymes

Product group	Decision	Derogation	Classified
Detergent for Dishwashers	2011/263/EU	Enzymes (***)	H334
Laundry Detergents	2011/264/EU		H317
Hand dishwashing detergents	2011/382/EU		
All-purpose cleaners and sanitary cleaners	2011/383/EU		
Industrial and institutional dishwasher detergents	2012/720/EU	Enzymes (***)	H334
Industrial and institutional laundry detergents	2012/721/EU		H317
			H400

(***) including stabilisers and other auxiliary substances in the preparations

7.10.2.5 Bleach catalysts

Laundry detergents widely contain bleaches for stain removal for private and professional use. These detergents contain quite large amounts of bleaching chemicals and it is expected that these levels could be reduced considerably leading to an improved environmental profile by adding low concentrations of bleach catalysts. The main purpose of the bleach catalysts is, therefore, boosting the stain removal and getting good washing performance at lower temperature. Further, catalyst that may activate bleaches to lower the washing temperatures, can lead to major energy saving. Traditionally, the bleach catalysts are many transition metal complexes such as nickel, chromium or cobalt salts or their compounds being considered toxic. Other substances such as catalysts based on e.g. manganese are right now under development¹⁵⁷ and they are also intended to be applied for dishwasher detergents.

The current derogation stands for bleach catalysts used in consumer and industrial and institutional laundry detergents, although the derogation refers to different H-phrases depending on the product. At this stage, it has not been possible to gather enough evidence to support derogation as alternative catalysts with better environmental performance seems to be turning up into the market.

Therefore, this point will be brought for discussion during the 1st AHWG meeting to assess if the derogation should or should not be kept. Industry members are encouraged to fill up the template enclosed at the end of this technical annex, if they consider so. Additionally, this derogation can be extended to other detergent (which require bleaching agents) products providing enough evidence is submitted.

Table 82 Current derogation for bleach catalysts

Product group	Decision	Derogation	Classified
Laundry Detergents	2011/264/EU	Bleach catalysts (*)	H334
			H317
Industrial and institutional laundry detergents	2012/721/EU	Bleach catalysts (*)	H400

(*) including stabilisers and other auxiliary substances in the preparations

7.10.2.6 NTA as an impurity in MGDA and GLDA

MGDA is a complexing agent patented by BASF that is mainly used in laundry and dishwasher detergents (for private and professional used) as well as in all-purpose cleaners. MGDA is readily biodegradable that has high performance being more cost-effective than other weaker complexing agents such as citrates or succinates. This complexing agent is used as replacement of other restricted complexing agents such as phosphates, phosphonates, zeolites and silicates, etc

¹⁵⁷ <http://www.teknoscienze.com/Articles/HPC-Today-Low-temperature-bleach-catalysts-for-improved-tea-stain-removal.aspx>

GLDA (Glutamic acid, N,N-bis(carboxymethyl)-tetrasodium salt) is another complexing agent that is largely used in dishwasher detergents. Their function is comparable to that of MGDA but it is mainly biobased¹⁵⁸.

Both components were assessed by BASF from the environmental point of view along with STPP¹⁵⁹. The results show that STPP tabs have highest impact in the categories emissions and resource consumption, they have the lowest impact in land use and risk potential. GLDA tabs have the highest impact in energy consumption, land use and risk potential and MGDA tabs have the lowest impact in the categories emissions, resource consumption and in human and eco-toxicology. This study shows that MGDA and GLDA are interesting alternatives to STPP from the environmental point of view.

However, both complexing agents have as impurity Nitrolo Triacetic Acid (NTA). NTA is also a complexing agent but it is now officially classified as carcinogenic and is thus excluded through criterion excluding CMR substances.

The current derogation stands for NTA as impurity of MGDA and GLDA is granted for the entire detergent product group. At this stage, not enough information has been gathered to assess if this derogation is needed in the future or if MGDA and GLDA can be produced with higher purity preventing the presence of NTA. Therefore, this point will be brought for discussion during the 1st AHWG meeting to assess if the derogation should or should not be kept. Industry members are encouraged to fill up the template enclosed at the end of this technical annexe, if they consider so.

Table 83 Current derogation for NTA as impurity in MGDA and GLDA

Product group	Decision	Derogation	Classified as
Detergents for dishwashers	2011/263/EU	NTA as an impurity in MGDA and GLDA (*)	H351
Laundry detergents	2011/264/EU		
Hand dishwashing detergents	2011/382/EU		
All-purpose cleaners and sanitary cleaners	2011/383/EU		
Industrial and institutional dishwasher detergents	2012/720/EU		
Industrial and institutional laundry detergents	2012/721/EU		

(*) In concentrations lower than 1.0 % in the raw material as long as the total concentration in the final product is lower than 0.10 %.

7.10.2.7 Optical brighteners (only for heavy duty laundry detergent)

Optical brighteners also known as fabric whitening agent or Fluorescent Whitening Agents (FWA) are fluorescent dyes that glow blue-white when exposed to ultraviolet light. The blue-white colour makes yellowed fabrics appear white.

Optical brighteners may be potentially toxic to humans and to the aquatic life. Optical brighteners are not readily biodegradable and may bioaccumulate, so they pose a potential hazard to aquatic life. Additionally, optical brighteners undergo photo degradation and numerous metabolites may be produced that are not yet identified.

Nowadays, there are alternative products on the market. There are optical brightener-free products or products that should be used with other agents such as the so-called non-chlorine oxygen based bleaches that prevent the use of optical brighteners getting a good washing performance.

At this point, the current derogation and the need for keeping this derogation in the revised EU Ecolabel criteria set will be brought on the table during the discussions held at the 1st AHWG meeting. Table 84 presents the current derogation included in the EU Ecolabel criteria set for laundry detergents.

Table 84 Current derogation for optical brighteners

Product group	Decision	Derogation	Classified
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¹⁵⁸ <http://cdn.intechopen.com/pdfs-wm/20357.pdf>

¹⁵⁹ https://www.basf.com/documents/corp/en/sustainability/management-and-instruments/quantifying-sustainability/eco-efficiency-analysis/examples/automatic-dishwashing-tabs/BASF_Label_Household_Tabs.pdf

Laundry detergents	2011/264/EU	Optical brighteners (only for heavy duty laundry detergent)	H413
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7.10.3 Ingoing substances listed in accordance with Article 59(1) of Regulation (EC) No 1907/2006

Criterion X – " Ingoing substances listed in accordance with Article 59(1) of Regulation (EC) No 1907/2006"

No derogation from the exclusion in Article 6(6) of Regulation (EC) No 66/2010 shall be given concerning ingoing substances identified as substances of very high concern and included in the list provided for in Article 59(1) of Regulation (EC) No 1907/2006¹⁶⁰, present in the product in concentrations higher than 0.010 % (weight by weight).

Assessment and verification: *reference to the list of substances identified as substances of very high concern shall be made on the date of application. The applicant shall provide the full formulation of the product to the competent body. The applicant shall also provide a declaration of compliance with criterion 3(c), together with related documentation, such as declarations of compliance signed by the material suppliers and copies of relevant safety data sheets for substances or mixtures.*

No content-wise change is proposed. Harmonisation of wording.

7.10.4 Fragrances

There are more than 5000 different fragrance substances, which are used frequently as mixtures in various consumer products; mainly in cosmetics but also in household products, textiles, shoes and even toys. Approximately 20% of fragrances is used in household products¹⁶¹, being detergents good representatives of this type of products.

Fragrances are used to neutralise the inherent odour of detergent chemicals and give laundry, dishes and other items being cleaned a pleasant smell. These do not enhance the cleaning properties of such products. Instead, fragrances can have negative environmental and health effects. They are very often classified as toxic to aquatic environment. Some fragrances are sensitizers and known triggers of allergic reactions such as asthma and contact dermatitis.¹⁶² In addition to the skin exposure, fragrances are volatile and therefore a perfume exposes also the eyes and naso-respiratory tract.

Prevention of contact sensitisation to fragrances is an important objective and thus is proposed to address this issue under the EU Ecolabel criteria by reducing the amount of allergens in products and consequently preventing the exposure to known contact allergens.

However, it should also be added that along with efficacy of the product, fragrances have become a very important factor for consumers. For instance, research by Datamonitor on " Consumer and Innovation Trends in Laundry Care" found that 51% of consumers worldwide state that the fragrance of a laundry care product has high or very high influence over their product choice, while only 42% state that product efficacy has an equal influence¹⁶³.

Restrictions on fragrances are addressed in a number of ecolabels. A summary of the respective requirements is given in Table 85.

¹⁶⁰ http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp

¹⁶¹ SCCS (2012), *Opinion on Fragrance allergens in cosmetic products*. Available at: http://ec.europa.eu/health/scientific_committees/consumer_safety/docs/sccs_o_102.pdf [Accessed October 2014]

¹⁶² Final report of the project supported by the 5th Framework Programme of the European Commission, under the Quality of Life and Management of Living Resources thematic programme, key action Environment and Health: (contract QLK4-CT-1999-01558) "Fragrance chemical allergy: a major environmental and consumer health problem in Europe", March 2003, available on line at: http://ec.europa.eu/research/quality-of-life/ka4/pdf/report_fragrance-allergy_en.pdf

¹⁶³ Datamonitor (2012) *Consumer and Innovation Trends in Laundry Care*. Available at: http://www.datamonitor.com/store/Product/consumer_and_innovation_trends_in_laundry_care?productid=CM00198-019

Table 85 Summary of the restrictions on fragrances in the revised Ecolabel schemes

Detergent	Label	Restriction
Consumer automatic dishwasher detergents	Nordic labelling	<p>If used, must be done in accordance with IFRA guidelines.</p> <p>The following substances must not be included in the product at levels >100 ppm per substance:</p> <ul style="list-style-type: none"> • 26 fragrance substances encompassed by the declaration requirement in the Detergents Regulation and its subsequent amendments • Fragrances classified as H317 (R43) or H334 (R42) • <i>Cananga odorata</i> and Ylang-ylang oil • <i>Eugenia caryophyllus</i> leaf/flower oil • <i>Jasminum grandiflorum / officinale</i> • <i>Myroxylon pereirae</i> • <i>Santalum album</i> • Turpentine oil • Verbene absolute.
	Env. Choice NZ	Fragrances must be produced and used in accordance with the code of practice compiled by IFRA
	EU Ecolabel	Any ingredients added to the product as a fragrance shall be manufactured and handled following the code of practice of the International Fragrance Association (IFRA)
	Good Env. Choice CR	Are not permitted.
	Singapore Green Labelling	All fragrances synthesised and included in the final product must comply with the IFRA code of practice
Industrial and institutional automatic dishwasher detergents	Nordic labelling	No requirements
	Env. Choice NZ	
	EU Ecolabel	
Consumer laundry detergents	Nordic labelling	<p>Fragrances encompassed by the declaration requirement in the Detergents Regulation 648/2004/EEC and its subsequent amendments must not be present in quantities >100 ppm (0.010 %) per substance.</p> <p>Fragrance substances classified with H317 and/or H334 can be included, the amounts have to be <0.010 % (100 ppm).</p> <p>Any ingredients added to the product as a fragrance shall have been manufactured and/or handled following the IFRA code of practice.</p>
	Env. Choice NZ	Fragrances must be produced and used in accordance with the code of practice compiled by IFRA.
	EU Ecolabel	Any ingredients added to the product as a fragrance shall be manufactured and handled following the code of practice of the International Fragrance Association (IFRA).
	Good Env. Choice CR	<p>No more than 0.50 % by weight fragrance content is permitted in the product. This limit also applies to concentrated products that are diluted before use. Fragrances must be used in accordance with the recommendations drawn up by IFRA.</p> <p>Nitromusk compounds and polycyclic musk compounds are not permitted in fragrances.</p>
	Singapore Green Labelling	All fragrances synthesised and included in the final product must comply with IFRA's code of practice
Industrial and	Nordic labelling	--

Detergent	Label	Restriction
institutional laundry detergents	Env. Choice NZ	Fragrances must be produced and used in accordance with the code of practice compiled by IFRA
	EU Ecolabel	Any ingredients added to the product as a fragrance shall be manufactured and handled following the code of practice of the IFRA
All-purpose cleaners consumer use	Nordic labelling	If fragrance is used this must be done in accordance with the International Fragrance Association (IFRA) guidelines. The following substances must not be included in the product at levels >100 ppm (0.010%) per substance: <ul style="list-style-type: none"> • 26 fragrance substances encompassed by the declaration requirement in the Detergents Regulation 648/2004/EEC and its subsequent amendments • Fragrances classified as H317 or H334 Fragrances must no longer be included in professional spray products or their refills.
	Env. Choice NZ	Fragrances must be produced and used in accordance with the code of practice compiled by IFRA. Fragrance containing nitro-musk or polycyclic musk compounds must not be used. Fragrance ingredients added for functions other than smell must also comply with all other requirements in this specification.
	EU Ecolabel	The product shall not contain perfumes containing nitro-musks or polycyclic musks. Any substance added to the product as a fragrance must have been manufactured and/or handled in accordance with the code of practice of the International Fragrance Association. Fragrance substances subject to the declaration requirement provided for in Regulation (EC) No 648/2004 (Annex VII) shall not be present in quantities ≥ 0.010 % per substance.
	Good Env Choice AU	Fragrance must be used in accordance with the 'Code of Practice' compiled by the International Fragrance Associations (IFRA)
	Good Env. Choice CR	No more than 0.5 % by weight fragrance content is permitted in the product. This limit also applies to concentrated products that are diluted before use.
	Green Seal	Manufacturers shall disclose the use of any added fragrances on their safety data sheets (SDSs) and product labels. Any ingredient added to a product as a fragrance must follow IFRA's Code of Practice.
Industrial and institutional all-purpose cleaners	EU Ecolabel	The product shall not contain perfumes containing nitro-musks or polycyclic musks. Any substance added to the product as a fragrance must have been manufactured and/or handled in accordance with the code of practice of the International Fragrance Association. Fragrance substances subject to the declaration requirement provided for in Regulation (EC) No 648/2004 (Annex VII) shall not be present in quantities ≥ 0.010 % per substance.
	Env. Choice NZ	Fragrances must be produced and used in accordance with the code of practice compiled by IFRA. Fragrance containing nitromusk or polycyclic musk compounds must not be used. Fragrance ingredients added for functions other than smell must also comply with all other requirements in this specification.
	Green Seal	Fragrances added to the product must follow the code of practice of the IFRA. All fragrance components must be disclosed to the certifying body.
Hand dishwasher detergents consumer use	EU Ecolabel	Any substances added to the product as a fragrance must have been manufactured and/or handled in accordance with the code of practice of the International Fragrance Association.
	Nordic labelling	If fragrance is used this must be done in accordance with IFRA guidelines.

Detergent	Label	Restriction
		The following substances must not be included in the product at levels >100 ppm (0.010 %) per substance: <ul style="list-style-type: none"> • 26 fragrance substances encompassed by the declaration requirement in the Detergents Regulation 648/2004/EEC and its subsequent amendments • Fragrances classified as H317 (R43) or H334 (R42)
	Env. Choice NZ	Fragrances must be produced and used in accordance with the code of practice compiled by IFRA.
	Good Env. Choice CR	No more than 0.5 % by weight fragrance content is permitted in the product. This limit also applies to concentrated products that are diluted before use

IFRA code of practice

It can be seen that the majority of ecolabel, including the EU Ecolabel, require that fragrances used in labelled products shall be manufactured and handled in accordance with the code of practice of the International Fragrance Association (IFRA). The organisation fosters globally accepted and recognized risk management system for the safe use of fragrance ingredients that is part of the IFRA Code of Practice, available at: <http://www.ifraorg.org>.

This is the self-regulating system of the industry, based on risk assessments carried out by an independent Expert Panel. The IFRA Code of Practice is a comprehensive document that provides products that are safe for use by the consumer and to the environment. The Code of Practice applies to the manufacture and handling of all fragrance materials, for all types of applications and contains the full set of IFRA Standards. Abiding by the IFRA Code of Practice is a prerequisite for all fragrance supplier companies that are members of IFRA (either directly or through national associations).

Amendments to the Code, if required, are issued annually, based on new scientific developments. These contain either new usage restrictions or revisions of existing usage restrictions. The IFRA Code of Practice is used worldwide including governmental regulatory bodies associations, companies and many other stakeholders.

This requirement shall be kept also in the revised criteria proposed for all product detergents groups where fragrances are used.

Exclusions of specific ingredients

Some schemes do not allow use of fragrances for certain product groups. But mainly restrictions on specific ingredients are imposed. Among these the most common are the following restrictions:

- 26 fragrance substances encompassed by the declaration requirement in the Detergents Regulation 648/2004/EEC and its subsequent amendments shall not be used at concentration greater than 100 ppm (0.010 %) per substance,
- Fragrances classified as H317 (R43) ‘may cause allergic skin reaction’ or H334 (R42) ‘may cause allergy or asthma symptoms or breathing difficulties if inhaled’ shall not be used,
- Fragrance containing nitromusk or polycyclic musk compounds shall not be used.

Detergents Regulation (EC) No 648/2004 requires that if the allergenic fragrances, listed in Table 86, are added at concentrations exceeding 0,01 % by weight of the final detergent product, then they shall be listed by name on the product packaging. This restriction refers to the ingredients listed in Annex III, Part 1 of Directive 76/768/EEC, as a result of its amendment by Directive 2003/15/EC to include the allergenic perfume ingredients from the list first established by the Scientific Committee on Cosmetics and Non Food Products (SCCNFP) in its opinion SCCNFP/0017/98. Since July 2013 the new EU Regulation 1223/2009 (Cosmetics Regulation)¹⁶⁴ is in force. At present the fragrances which needs to be listed are contained in the Annex III of this Regulation.

¹⁶⁴ Regulation (EC) No 1223/2009 of the European Parliament and of the Council of 30 November 2009 on cosmetic products

Table 86 Fragrances which require labelling in detergent and cosmetic products

Common name	CAS number
Amyl cinnamal	(CAS No 122-40-7)
Benzyl alcohol	(CAS No 100-51-6)
Cinnamyl alcohol	(CAS No 104-54-1)
Citral	(CAS No 5392-40-5)
Eugenol	(CAS No 97-53-0)
Hydroxy-citronellal	(CAS No 107-75-5)
Isoeugenol	(CAS No 97-54-1)
Amylcin-namyl alcohol	(CAS No 101-85-9)
Benzyl salicylate	(CAS No 118-58-1)
Cinnamal	(CAS No 104-55-2)
Coumarin	(CAS No 91-64-5)
Geraniol	(CAS No 106-24-1)
Hydroxy-methylpentylcyclohexenecarboxaldehyd	(CAS No 31906-04-4)
Anisyl alcohol	(CAS No 105-13-5)
Benzyl cinnamate	(CAS No 103-41-3)
Farnesol	(CAS No 4602-84-0)
2-(4-tert-Butylbenzyl) propionald-hyd	(CAS No 80-54-6)
Linalool	(CAS No 78-70-6)
Benzyl benzoate	(CAS No 120-51-4)
Citronellol	(CAS No 106-22-9)
Hexyl cinnam-aldehyd	(CAS No 101-86-0)
d-Limonene	(CAS No 5989-27-5)
Methyl heptin carbonate	(CAS No 111-12-6)
3-Methyl-4-(2,6,6-tri-methyl-2-cyclohexen-1-yl)-3-buten-2-one	(CAS No 127-51-5)
Oak moss and treemoss extract	(CAS No 90028-68-55)
Treemoss extract	(CAS No 90028-67-4)

Source: listed at <http://ec.europa.eu/enterprise/sectors/chemicals/documents/specific-chemicals/detergents/>

Additionally, for instance in Nordic Ecolabelling for automatic dishwasher detergents several additional fragrances are excluded, including:

- Cananga odorata and Ylang-ylang oil
- Eugenia caryophyllus leaf/flower oil
- Jasminum grandiflorum / officinale
- Myroxylon pereirae
- Santalum album
- Turpentine oil
- Verbene absolute.

In the recent revision of the criteria for rinse-off cosmetics a similar approach was considered. It was initially proposed to exclude use of established fragrance contact allergens of special concern as identified in the Scientific Committee on Consumer Safety (SCCS) Opinion on Fragrance allergens in cosmetic products¹⁶⁵ (see Table 87).

¹⁶⁵ SCCS (2012), Opinion on Fragrance allergens in cosmetic products. Available at: http://ec.europa.eu/health/scientific_committees/consumer_safety/docs/sccs_o_102.pdf [Accessed October 2014]

Table 87 Established fragrance contact allergens of special concern

Common name
Cinnamal
Cinnamyl Alcohol*
Citral
Coumarin
Eugenol*
Farnesol*
Geraniol*
Hydroxycitronellal
Hydroxyisohexyl 3-cyclohexene carboxaldehyde (HICC)
Isoeugenol*
Limonene (oxidised)
Linalool* (oxidised)
Chloroatranol – main allergenic constituents of <i>Everna prunasteri</i> (oak moss)
Atranol – main allergenic constituents of <i>Everna prunasteri</i> (oak moss) and <i>Everna furfuracea</i>
Canonanga odorata and Ylang-ylang oil
<i>Eugenia caryphyllus</i> leaf/flower oil
<i>Jasminum Grandiflorum/officinale</i>
<i>Myroxylon pereirae</i> (Balsam of Peru)
<i>Santalum album</i> (Sandelholz)
Turpentine (oil)

*including their respective esters

At the same period DG SANCO began works and later on a public consultation on potential revision of the ANNEX III of the Cosmetics Regulation and potential inclusion of additional sensitizing fragrances or complete ban of few chosen ones. The results of this process should be known in the near future.

7.10.4.1 Proposed common template

Bearing in mind that a complete horizontal exclusion of fragrances in detergent product groups does not seem feasible given the importance these have to consumers, and at the same time taking seriously the concerns regarding their sensitizing properties it is considered appropriate to keep the limit the amounts of sensitising substances used in EU Ecolabel products to reduce the risk of allergies. Extending the current restriction to fragrances which are recognised as allergens of special concern in SCCS opinion mentioned previously is proposed for discussion. For the moment, addition of three substances is proposed (as done also in ROC criteria) due to their especially high sensitizing potential. Hydroxyisohexyl 3-cyclohexene carboxaldehyde (HICC), Atranol and Chloroatranol shall not be used in detergent products.

Exclusion of the fragrances from IIDD products is proposed to be kept.

Criterion X – "Fragrances "

In sub-criterion **(a) Specified excluded ingoing substances and mixtures** - hydroxyisohexyl 3-cyclohexene carboxaldehyde (HICC), Atranol and Chloroatranol shall be added to the list, i.e.:

The following ingredients must not be included in the product, neither as part of the formulation nor as part of any preparation included in the formulation:

- hydroxyisohexyl 3-cyclohexene carboxaldehyde (HICC), Atranol and Chloroatranol.
- Fragrance substances subject to the declaration requirement provided for in Regulation (EC) No 648/2004 of the European Parliament and of the Council on detergents (Annex VII) and which are not already excluded by criterion 2b and (other) fragrance substances classified H317/R43 (May cause allergic skin reaction) and/or H334/R42 (May cause allergy or asthma symptoms or breathing difficulties if inhaled) shall not be present in quantities $\geq 0.010\%$ (≥ 100 ppm) per substance.

In sub-criterion **(b) Hazardous substances and mixtures**

Restriction on substances and mixtures classified with (H317) and (H334) should be included.

In sub-criterion **Fragrances**:

(i) Any ingoing substance or mixture added to the product as a fragrance shall be manufactured and handled following the code of practice of the International Fragrance Association (IFRA). The code can be found on the IFRA website: <http://www.ifraorg.org>. The recommendations of the IFRA Standards concerning prohibition, restricted use and specified purity criteria for materials shall be followed by the manufacturer.

7.10.5 Biocides/Preservatives

According to the Biocide Product Regulation (BPR 528/2012/EC) **biocide** means any substance or mixture with one or more active ingredients that are intended to destroy, deter, render harmless, prevent the action of, or otherwise exert an effect on any harmful organism by any means other than mere physical or mechanical action. A treated article that has a primary biocidal function shall be considered a biocidal product (see BPR 528/2012/EC, Art. 3 (1)(a)).

Although biocidal products are not commonly used in household products, the active ingredients of the biocidal products in categories 1-9 of the Regulation are widely used in household products and other consumer products. Regular use of household products such as laundry detergents, cleaning products, pet disinfectants and general disinfectants are the major sources of exposure to biocides in home settings. Biocides present in these products may be from different chemical groups, but their mechanism of action may be similar.

Biocides are used in detergent products for preservation purposes. They prevent the product from spoiling during storage by preventing the growth of microorganism.

Biocides shall be used only for preservative purposes and properly used for this function. This means, in accordance with the BPR, minimal amount of biocides shall be used and only for the most necessary reasons. The BPR states that the proper use of biocides is declared as "limited to the minimum necessary" (see Art. 17, BPR), which includes avoidance of the biocides in favour of "rational application of a combination of physical, biological, chemical or other measures". When deciding whether an active substance may be approved, the availability of suitable and sufficient alternative substances or technologies shall be a key consideration. The use of a biocidal product containing active substances approved shall be subject to appropriate risk mitigation measures to ensure that exposure of humans, animals and the environment to those active substances is minimised.

There is no definition of **preservatives** included in the Detergents Regulation. The reference to preservation agents and the Council Directive 76/768/EEC (the Cosmetics Directive) is made only. However, Art 2 (1) lit. l of Regulation (EC) No 1223/2009 on cosmetic products (which substituted the Cosmetics Directive since July 2013) defines '*preservatives*' as "*substances which are exclusively or mainly intended to inhibit the development of micro-organisms in the cosmetic product*". Preservatives function is to ensure that products are safe to be used by the consumers over long period and to maintain the appearance of the product.

The use of biocides is a cause for concern, as they are highly toxic to aquatic organisms and can also produce hypersensitivity and allergies. The combination of high toxicity, poor degradability and bioaccumulation gives a high risk for environmental damage. This is the main reason, why its use is proposed to be restricted in EU Ecolabel products.

The restriction on use of preservatives is included in most of the national ecolabels. A summary of requirements set in the current EU Ecolabel, the Nordic Ecolabelling and the Environmental Choice New Zealand is given in Table 88.

Table 88 Summary of the restrictions on biocides and preservative in the revised national ecolabel schemes

Label	Restriction
<u>Industrial and institutional automatic dishwasher detergents</u>	
Nordic labelling	Preservatives: The product may contain preservatives provided that the preservatives are not bioaccumulating. A preservative is not considered bioaccumulating if $BCF < 500$ or $\log K_{ow} < 4.0$. If both BCF and $\log K_{ow}$ values are available, the highest measured BCF value shall be used.
Env. Choice NZ	Biocides: The product may only include biocides in order to preserve the product, and in the appropriate dosage for this purpose alone. This criterion does not apply to ingredients (e.g.: quaternary ammonium salts) added for other functions but which may also have biocidal properties.
EU Ecolabel	Biocides: The product may only include biocides in order to preserve the product, and in the appropriate dosage for this purpose alone. This does not refer to surfactants which may also have biocidal properties. The product may contain biocides provided that they are not bioaccumulating. A biocide is not considered bioaccumulating if $BCF < 100$ or $\log K_{ow} < 3.0$. If both BCF and $\log K_{ow}$ values are available, the highest measured BCF value shall be used
<u>Consumer automatic dishwasher detergents</u>	
Nordic labelling	Preservatives: Must not be bioaccumulating. The requirement applies to all preservatives in product ingredients and raw materials
Env. Choice NZ	Preservatives/biocides: The product may only include biocides in order to preserve the product, and in the appropriate dosage for this purpose alone.
EU Ecolabel	Biocides: The product may only include biocides in order to preserve the product, and in the appropriate dosage for this purpose alone. This does not refer to surfactants which may also have biocidal properties. It is prohibited to claim on the packaging or by any other communication that the product has an antimicrobial action
<u>Industrial and institutional laundry detergents</u>	
Nordic labelling	Preservatives: may be added in liquid products if the preservatives are not bioaccumulable.
Env. Choice NZ	Biocides and preservatives: The product may only include biocides in order to preserve the product, and in the appropriate dosage for this purpose alone. This criterion does not apply to ingredients (e.g. quaternary ammonium salts) added for other functions but which may also have biocidal properties.
EU Ecolabel	Biocides: the product may only include biocides in order to preserve the product, and in the appropriate dosage for this purpose alone. This does not refer to surfactants which may also have biocidal properties.
<u>Consumer laundry detergents</u>	
Nordic labelling	
Env. Choice NZ	Biocides and preservatives: The product may only include biocides in order to preserve the product, and in the appropriate dosage for this purpose alone. This criterion does not apply to ingredients (e.g. quaternary ammonium salts) added for other functions but which may also have biocidal properties.
EU Ecolabel	Biocides: the product may only include biocides in order to preserve the product, and in the appropriate dosage for this purpose alone. This does not refer to surfactants which may also have biocidal properties.
<u>All-purpose cleaners consumer use</u>	
Nordic labelling	Preservatives: must not be bioaccumulating. The requirement applies to all preservatives in product ingredients and raw materials. Preservatives may not be added to produce a disinfecting or antibacterial effect
Env. Choice NZ	Biocides and preservatives: The product may only include biocides in order to preserve the product, and in the appropriate dosage for this purpose alone. This criterion does not apply to ingredients (e.g. quaternary ammonium salts) added for other functions but which may also have biocidal properties.
EU	Biocides: the product may only include biocides in order to preserve the product, and in the

Ecolabel	appropriate dosage for this purpose alone. This does not refer to surfactants which may also have biocidal properties. It is prohibited to claim on the packaging or by any other communication that the product has an antimicrobial action.
<u>Industrial and institutional all-purpose cleaners</u>	
EU Ecolabel	Biocides: the product may only include biocides in order to preserve the product, and in the appropriate dosage for this purpose alone. This does not refer to surfactants which may also have biocidal properties. It is prohibited to claim on the packaging or by any other communication that the product has an antimicrobial action.
Env. Choice NZ	Biocides and preservatives: The product may only include biocides in order to preserve the product, and in the appropriate dosage for this purpose alone. This criterion does not apply to ingredients (e.g.: quaternary ammonium salts) added for other functions but which may also have biocidal properties
<u>Hand dishwasher detergents</u>	
EU Ecolabel	Biocides: the product may only include biocides in order to preserve the product, and in the appropriate dosage for this purpose alone. This does not refer to surfactants which may also have biocidal properties. It is prohibited to claim on the packaging or by any other communication that the product has an antimicrobial action.
Nordic labelling	Preservatives: must not be bioaccumulating. The requirement applies to all preservatives in product ingredients and raw materials.

In most ecolabelling schemes preservatives are required, to be non-bioaccumulating. Bioaccumulation of the substances is assessed by the bioconcentration factor (BCF) or if no BCF results are available the log K_{ow} value.

REACH defines **bioaccumulative potential** as *"the potential of the substance or certain substances in a mixture to accumulate in biota and, eventually, to pass through the food chain. Test results relevant to assess the bioaccumulative potential shall be given. This shall include reference to the octanol-water partition coefficient (K_{ow}) and bioconcentration factor (BCF), if available"*.

In accordance with the CLP Regulation *"for organic substances the potential for bioaccumulation shall normally be determined by using the octanol/water partition coefficient, usually reported as a log K_{ow} . The relationship between the log K_{ow} of an organic substance and its bioconcentration as measured by the bioconcentration factor (BCF) in fish has considerable scientific literature support. Using a cut-off value of log $K_{ow} \geq 4$ is intended to identify only those substances with a real potential to bioconcentrate. While this represents a potential to bioaccumulate, an experimentally determined BCF provides a better measure and shall be used in preference if available. A BCF in fish of ≥ 500 is indicative of the potential to bioconcentrate for classification purposes. Some relationships can be observed between chronic toxicity and bioaccumulation potential, as toxicity is related to the body burden"*.

Thus, the CLP refers to BCF ≥ 500 or, if absent, the log $K_{ow} \geq 4$. EU Ecolabel, on the other hand, so far used the following thresholds: BCF < 100 or logPow < 3,0. If both BCF and logPow values were available, the highest measured BCF value should be used.

Discussions on aligning with the threshold from CLP were conducted in the recent criteria development and revisions but the general agreement among MS was to keep the stricter approach and the later limit values.

A requirement that preservatives shall not be bioaccumulating is proposed to be kept horizontally in all the EU Ecolabel criteria revised. The motivation behind is that biocides which are bioaccumulating store in the fat tissues of living organisms and can cause long-lasting damaging effects.

As harmonisation among similar product groups is sought it is also proposed to include the following requirement (introduced in the new ROS criteria):

(i) Preservatives in the product shall not release or degrade to substances that are classified in accordance with the requirements of criterion x(b) Hazardous substances and mixtures.

7.10.5.1 Proposed common template

Bearing in mind the need of preserving the products and at the same time, trying to reduce as much as possible their environmental and human health impacts the following horizontal approach is proposed for discussion:

Criterion X – "Preservatives "

- (i) The product may contain preservatives provided that they are not bioaccumulating. A preservative is not considered bioaccumulating if $BCF < 100$ or $\log P_{ow} < 3,0$. If both BCF and $\log K_{ow}$ values are available, the highest measured BCF value shall be used.
- (ii) Preservatives in the product shall not release or degrade to substances that are classified in accordance with the requirements of criterion x(b) Hazardous substances and mixtures.
- (iii) It is prohibited to claim or suggest on the packaging or by any other communication that the product has an antimicrobial action.

Assessment and verification: the applicant shall provide a signed declaration of compliance, together with copies of the safety data sheets of any preservative added, and information on its BCF and/or $\log K_{ow}$ values. The applicant shall provide also artwork of the packaging.

7.10.6 Colorants

Colouring agents are added to the product in very small amounts in order to colour the product itself and, for some products like HDD, to facilitate the consumer applying appropriate dosage of the product. It also influences the appearance of the product.

Along the development of the criteria for ROCs the issue of colorants was raised. Contact of the human body with certain colorants, their impurities, or their decomposition products (that may occur during processing or storage of the product) can produce allergic reactions, sensitization or photosensitization in susceptible people¹⁶⁶. During the development of the criteria for Nordic Swan¹⁶⁷ it was emphasized that the environmental properties of colorants are often very poorly documented. Many of them are toxic; nevertheless they are used in very small quantities. In order to reduce the environmental and health related impacts of these ingredients it was agreed to exclude colorants that may bioaccumulate.

It is expected that similar colouring agents are used in detergents and they seem to gain importance in products like liquid LD or HDD. In the current Nordic Ecolabelling detergent criteria there is a requirement set for colorants. It is therefore proposed to consider whether a restriction, which is included already in the EU Ecolabel criteria for IIDD. It is thus proposed to consider horizontal application of the requirement, also currently included in the ROCs criteria, that the colorants used shall not be bioaccumulating. Additionally, substances which have been approved for use in food are also accepted in Ecolabel products. Their list can be found at the EC website¹⁶⁸. The proposed criterion is as follows:

Criterion x – "Colorants"

Colorants in the product must not be bioaccumulating. A colorant is considered not bioaccumulating if $BCF < 100$ or $\log P_{ow} < 3,0$. If both BCF and $\log K_{ow}$ values are available, the highest measured BCF value shall be used. In the case of colouring agents approved for use in food, it is not necessary to submit documentation of bioaccumulation potential.

Assessment and verification: the applicant shall provide copies of the safety data sheets of any colorant added together with information on its BCF and/or $\log K_{ow}$ value, or documentation to ensure that the colouring agent is approved for use in food.

¹⁶⁶ Rosenthal et al., 1988; Wei et al., 1994, 1995; Mselle, 2004; Antonovich and Callen, 2005; Klontz et al., 2005

¹⁶⁷ Final report. EU Eco-label for shampoo and soaps. Ecolabelling Norway. Eskeland., M.B, Svanes, E., 2006.

¹⁶⁸ Lists of authorized food additives: http://ec.europa.eu/food/food/FAEF/additives/lists_authorized_fA_en.htm.

7.11 Packaging

7.11.1 Background

Packaging is an increasing environmental concern as the average EU-27 citizen generated over 150kg of packaging waste per year¹⁶⁹. Despite this, it is a necessity as it greatly reduces damage to products from the environment and vice versa, allows for easier identification of contents and packaging labels provide information on ingredients, safety and dosage advice. In the case of detergents, packaging represents from 0 to 37% of a product's environmental impacts, depending on the product, packaging and environmental impact considered (cf. Section 4 of Preliminary Reports). This is not the most important environmental impact of a detergent's life cycle; nevertheless the environmental aspects linked to packaging have improvement potential and can be acted upon at EU Ecolabel level.

In Europe, the Directive on Packaging and Packaging Waste¹⁷⁰ is the main policy tool to harmonize national measures concerning the management of packaging and packaging waste to prevent and reduce their impact, thus providing a high level of environmental protection and to avoid obstacles to trade in the European market. It contains provisions on the prevention, reuse, recovery and recycling of packaging and so all of it should, for example:

- have weight and volume minimized to the amount needed for safety and acceptance of the packed product,
- be suitable for material recycling, energy recovery and composting or reuse if intended,
- be manufactured in a way which ensures any noxious or hazardous constituents should have minimum impact on the environment.

Additionally, in the European Union there are targets for the recovery and recycling of packaging waste, fixing dates and percentage of waste that should be recycled.

The Directive on Packaging and Packaging Waste provides the following definitions:

- *"sales packaging or primary packaging, i.e. packaging conceived so as to constitute a sales unit to the final user or consumer at the point of purchase"*
- *"grouped packaging or secondary packaging, i.e. packaging conceived so as to constitute at the point of purchase a grouping of a certain number of sales units whether the latter is sold as such to the final user or consumer or whether it serves only as a means to replenish the shelves at the point of sale; it can be removed from the product without affecting its characteristics"*

Harmonisation with the wording of the Directive will be sought as much as possible.

7.11.2 Proposed common template

Criterion X – "Packaging"

- k) Requirements specific to each EU Ecolabel, if any
- l) Weight/utility ratio (WUR)

The weight/utility ratio (WUR) of the product shall be calculated for the primary packaging only and shall not exceed the following values for the reference dosage:

Product type	WUR
Type of product covered	xx,xx g

Are exempted from this requirement:

¹⁶⁹ http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Packaging_waste_statistics

¹⁷⁰ European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging waste, OJ L 365, 31.12.1994, p. 10–23

- Plastic/paper/cardboard packaging containing more than 80 % recycled materials,
- Paper/cardboard packaging that comes 80% from certified sustainable sources,
- Plastic packaging containing more than 80 % plastic from sustainable sources.

Assessment and verification: the applicant shall provide the calculation of the WUR of the product. A spreadsheet for this calculation is available on the EU Ecolabel website. If the product is sold in different packaging (i.e. with different volumes), the calculation shall be submitted for each packaging size for which the EU Ecolabel shall be awarded.

The applicant shall provide a completed and signed declaration for the content of recycled material in the packaging.

- For paper and cardboard, packaging is regarded as recycled if the raw material used to make the packaging has been collected from packaging manufacturers at the distribution stage or at the consumer stage. Where the raw material is industrial waste from the material manufacturer's own production process, then the material will not be regarded as recycled.

- For plastic, packaging is regarded as recycled if the raw material used to make the packaging comes from industrial waste or has been collected from packaging manufacturer at the distribution or at the consumer stage.

The applicant shall provide a completed and signed declaration for the content of sustainably sourced material in the packaging. For paper and cardboard, the applicant shall provide **TBD**. For plastic, the applicant shall provide **TBD**.

The WUR is calculated as follows:

$$WUR = \sum ((W_i + U_i) / (D_i * R_i))$$

Where:

W_i: weight (g) of the primary packaging (i),

U_i: weight (g) of non-recycled and non-sustainably sourced packaging in the primary packaging (i). U_i = W_i unless the applicant can document otherwise,

D_i: number of reference doses contained in the primary packaging (i),

R_i: number of times that the primary packaging (i) can be refilled and used for the same purpose. R_i = 1 (packaging is not reused for the same purpose) unless the applicant can document a higher number.

m) Design for recycling

Plastic packaging shall be designed to facilitate effective recycling by avoiding potential contaminants and incompatible materials that are known to impede separation or reprocessing or to reduce the quality of recycle. The label or sleeve, closure and, where applicable, barrier coatings shall not comprise, either singularly or in combination the materials and components listed in Table X.Z. Sprays and pumps are exempted from this requirement.

Table X.Z – Materials and components excluded from packaging elements

Packaging element	Excluded materials and components ¹⁷¹
Label or sleeve	<ul style="list-style-type: none"> - PS label or sleeve in combination material used with a PET, PP or HDPE bottle - PVC label or sleeve in combination with a PET, PP or HDPE bottle - PETG label or sleeve in combination with a PET bottle - Sleeves made of different polymer than the bottle - Labels or sleeves that are metallised or are welded to a packaging body (in mould labelling)

¹⁷¹ EVA – Ethylene Vinyl Acetate, EVOH – Ethylene vinyl alcohol, HDPE – High-density polyethylene, PET – Polyethylene terephthalate, PETG – Polyethylene terephthalate glycol-modified, PP – Polypropylene, PS – Polystyrene, PVC – Polyvinylchloride

Closure	<ul style="list-style-type: none"> - PS closure in combination a with a PET, HDPE or PP bottle - PVC closure in combination with a PET, PP or HDPE bottle - PETG closures and/or closure material with density of above 1 g/cm³ in combination with a PET bottle - Closures made of metal, glass, EVA - Closures made of silicone. Exempted are silicone closures with a density < 1 g/cm³ in combination with a PET bottle and silicone closures with a density > 1g/cm³ in combination with PEHD or PP bottle - Metallic foils or seals which remain fixed to the bottle or its closure after the product has been opened
Barrier coatings	Polyamide, EVOH, functional polyolefins, metallised and light blocking barriers

Assessment and verification: The applicant shall submit a signed declaration of compliance specifying the material composition of the packaging including the container, label or sleeve, adhesives, closure and barrier coating, and a sample of primary packaging.

7.11.3 Rationale and discussion

In the case of detergents, the environmental performance of packaging can be improved in several ways while ensuring that it protects the product well and remains satisfactory to customers. For example, the amount of material used in the packaging can be reduced, combinations of materials compatible with recycling streams can be promoted, as well as the use of recycled raw materials and those from sustainable sources.

The product groups covered by the six EU Ecolabels in the "detergents" group present, to a large extent, similar packaging practices and thus the wording and the contents of the "packaging" criterion in the sets of criteria has been harmonised as much as possible, without being identical to respect product differences.

The following sections summarize the important information to be considered when selecting the most appropriate criteria and thresholds in the packaging field.

7.11.3.1 Reduction of the amount of packaging

In packaging, every gram counts. Generally speaking, lighter packaging is cheaper to transport and store and its manufacturing and distribution require less energy and fewer raw materials. However there are trade-offs as reducing packaging too much can produce flimsy packaging leading to undesirable consequences such as product deterioration or spillage, uncontrolled dosing, etc.

The weight-utility-ratio (WUR) is a measure of the mass of packaging used to deliver a functional unit (i.e. a washing cycle). This indicator is used to limit the amount of packaging and consequently reduce the impact of producing packaging material and transportation. The indicator also promotes the use of recycled and renewable and sustainably sourced material in packaging and the reuse of packaging components.

$$WUR = \sum ((W_i + U_i) / (D_i * R_i))$$

Where:

W_i : weight (g) of the primary packaging (i),

U_i : weight (g) of non-recycled plastic/paper/cardboard packaging, non-sustainably sourced paper/cardboard packaging and plastic packaging of non-renewable origin in the primary packaging (i). $U_i = W_i$ unless the applicant can document otherwise.

D_i : number of reference doses contained in the primary packaging (i),

R_i : number of times that the primary packaging (i) can be refilled and used for the same purpose.

$R_i = 1$ (packaging is not reused for the same purpose) unless the applicant can document a higher number.

The level of ambition of WUR depends on the product group and also on the types of products found in that product group (i.e. powder and liquid detergents might have different WUR limits to highlight the differences in packaging between the two types). In the EU Ecolabel, the use of recycled and sustainably sourced content is promoted in the calculation of the WUR values and through exemptions, as covered in Sections 7.11.3.2 and 7.11.3.3. Moreover, the WUR considers the possibility of packaging being refilled through *Ri*, although difficulties have been encountered by stakeholders when trying to interpret how one should document the fact that a packaging can and will be refilled by users. Indeed, while a manufacturer can prove that refills do exist on the market and that theoretically one packaging can withstand a certain amount of reuses, they cannot prove that users are and will be using refills with the original packaging. One approach that is taken by some products aimed at professional users where a product is only sold as part of a multi-pack (one main bottle together with several refills). Domestic products are rarely sold in this fashion as they require space for storage and large one-time investments.

As the WUR requirements are different for each product group, these are listed, along with comparisons to other ecolabels and statistics, in their respective technical reports. Table 89 summarises that information. The WUR approach as it is presented in five out of the six current EU Ecolabels related to detergents can also be found in four Nordic Swan ecolabel criteria (most notably it is absent from criteria sets for product groups solely targeting products intended for professional use). New Zealand's Environmental Choice uses a simpler formula that does not promote the use of recycled materials.

Table 89 Summary on reduction of packaging criterion in the revised Ecolabel schemes

Ecolabel	LD	IILD	DD	IIDD	APC	HDD
EU Ecolabel	WUR	WUR	≠ formula (primary packaging weight/FU)	WUR	WUR	WUR
Nordic Swan	WUR	---	WUR	---	WUR	WUR
New Zealand – Env. Choice	≠ formula (primary packaging weight/FU)	≠ formula (primary packaging weight/FU)	≠ formula (primary packaging weight/FU)	≠ formula (primary packaging weight/FU)	≠ formula (primary packaging weight/FU)	≠ formula (primary packaging weight/FU)

("WUR" indicates the uses of the same formula as indicated above)

7.11.3.2 Requirements on paper and cardboard

Stakeholders pointed out the need for promoting recycled content for cardboard packaging as well as certified sustainable sources of wood fibres. It was proposed that they should be equally considered as responsibly managed forests address the environmental, social and economic aspects of sustainability and will have a lower life cycle impact than non-sustainably managed sources. Moreover, certifications schemes exist for both recycled wood fibres and sustainably managed sources of wood fibres.

The issue of percentage of recycled or certified wood fibres requirements is a common discussion point for many EU Ecolabel product groups and the threshold of 70% recycled or certified wood fibres has been proposed. Although 100% recycled or certified wood fibres is desirable it could be difficult to maintain for manufacturers due to possible fluctuations in market supplies. The threshold of 70% of recycled or certified wood fibres comes from the fact that both FSC and PEFC propose certification schemes ensuring these levels, meaning that the verification and assessment of recycled or certified wood fibre content is facilitated as one can prove compliance by producing the certificates.

In the EU Ecolabels related to detergents, recycled and certified wood fibres intervene in two ways – they can either lower the WUR results if the recycled material content of the packaging (paper,

cardboard and plastic) is below 80% or if the certified wood fibre content is below 80%, or by exempting the need to comply with the WUR criteria if either of these thresholds is met. These high thresholds are proposed as the exemptions should be only granted in cases where the recycled or certified wood fibre content is exceptional. A requirement for 100% is not proposed as often packaging is not formed from a single material, for example labels can come from a different source than the main packaging. With this proposal, the applicant would have to prove that they meet the recycled material content threshold (80%) by providing information on where the material comes from and the calculations showing that the threshold is met. The applicant would have to prove that they meet the certified wood fibre content threshold (80%) by providing the certification information from an approved certification body, FSC or PEFC for example, and the calculations showing that the threshold is met.

Currently, many types of products are already produced with packaging that contains a high level of recycled cardboard. For example several brands of dishwasher tablets claim over 90% of recycled material in their packaging.

7.11.3.3 Requirements on plastics

Plastic packaging is highly used in the detergents sector as it can be easily shaped and serve many purposes.

Plastics present several characteristics that make them an interesting choice from an environmental point of view. However, there are some requirements that plastic should comply with to ensure that their environmental impacts are as limited as possible including, among other aspects, use of recycled materials, longer durability that enables reusability (e.g. refillable bottles), recyclability, energy recovery or biodegradability.

Recycled plastics

The use of recycled plastics is proposed to be promoted through two ways, identical to recycled cardboard: the WUR is lowered if recycled plastic is used and the applicant may be exempted from the WUR requirement if over 80% of the packaging used (paper, cardboard and plastic, combined) comes from recycled sources. The quantity of recycled plastic that can be used in packaging depends both on the type of plastic and the packaging, for example concerns about the colour and aesthetics of the finished product can be raised for light coloured injection moulded plastics. For extruded components, co-extrusion technology allows an inner core of recycled plastic to be surrounded by a thin outer layer of virgin plastic, making it easier to control colour and aesthetic aspects. Moreover, there are also possible concerns of unexpected variations in the quality and quantity of recycled plastics available on the market. There is also potential for plastic recyclates to bring hazardous substances into the EU Ecolabel product exists because it is simply not practical to test all batches of plastic recyclates delivered for each of the flame retardants and plasticisers that are REACH restricted. To date no industry wide standard exists for impurities for recycled plastics (analogous to the EPF standard for recycled wood fibres) but would be a welcome addition to improving confidence in recycled plastic. The issue of contaminants in recyclates is less problematic for recycled plastic coming from industrial waste as the origin is more controlled. For example, recycled PP coming from industrial waste is available on the market and can be used in non-food packaging¹⁷².

Thus, as the recycled plastics market is yet as developed as the market for recycled cardboard and paper, it is proposed to promote both the use of industrial waste and post-consumer recycled plastic. The corresponding wording in the assessment and verification of the WUR is thus proposed to be changed to include the option of using industrial waste.

Plastics from renewable sources

Stakeholders have also proposed to consider requirements for the inclusion of plastics from renewable sources. These plastics are still a niche market but they are becoming more and more cost competitive and they can offer a point of differentiation for manufacturers.

¹⁷² Example of product: <http://www.akgpolymers.com/producten.asp>

Packaging represented 70% of the overall market for plastics from renewable sources¹⁷³, with applications in multiple industries, showing that there is potential for this type of material. The main selling point of this type of material is the savings that can be made on fossil resources but there are concerns that plastics from renewable sources can have social and ethical implications as the crops for these materials compete with those cultivated for food supply. There are also environmental trade-offs to be considered - environmental impacts caused by the non-renewable energy necessary for their production and the water pollution and land use that this production would entail. Thus, to avoid causing extra environmental impacts, plastics should not only come from renewable sources but also sustainable sources. For the moment, there are no standards or certification schemes on the subject but a standard for certification and declaration tools for bio-based products is being developed and is expected to be voted on in 2016¹⁷⁴.

As an EU Ecolabel criteria set is voted for a relatively long time span, it is important to consider possible future developments. Even though this is still a relatively new type of material, with a limited market and limited testing, it is proposed to promote its use through a reduction in the WUR or an exemption from the WUR requirement if the threshold of over 80% of plastic from renewable sources is met.

7.11.3.4 Design for recycling

EU Ecolabel criteria should try to ensure the recyclability of various components of packaging. The best case is mono-material packaging. For packaging made of different materials, all materials in the packaging should be separable by hand (paper, cardboard, plastic, metal, glass) for sorting, or should be suitable for recycling. Packaging elements such as caps or labels also have to be considered to ensure that these elements do not pose difficulties in recycling processes.

Several stakeholders argued that in some cases it may be better to stay with multiple materials if this allows for material reduction, especially in countries with low waste recycling rates and a lack of recycling facilities. Nevertheless, it is agreed that Ecolabel should promote recycling as the best waste treatment and it is considered appropriate to set a requirement to guarantee recyclability of packaging. And even if multiple materials are used, it should be ensured that this design does not impede the recyclability of the packaging.

The proposed formulation in the criterion is aligned with the one from the EU Ecolabel on Rinse-off cosmetics and is as follows:

Plastic packaging shall be designed to facilitate effective recycling by avoiding potential contaminants and incompatible materials that are known to impede separation or reprocessing or to reduce the quality of recyclate. The label or sleeve, closure and, where applicable, barrier coatings shall not comprise, either singularly or in combination the materials and components listed in Table 90. Pumps are exempted from this requirement.

Table 90 Materials and components excluded from packaging elements

Packaging element	Excluded materials and components ¹⁷⁵
Label or sleeve	<ul style="list-style-type: none"> - PS label or sleeve in combination material used with a PET, PP or HDPE bottle - PVC label or sleeve in combination with a PET, PP or HDPE bottle - PETG label or sleeve in combination with a PET bottle - Sleeves made of different polymer than the bottle - Labels or sleeves that are metallised or are welded to a packaging body (in mould labelling)

¹⁷³ PlasticEurope, presentation at Future of Bioplastics, Warsaw 02.10.2013

¹⁷⁴ CEN/TC 411/WG 5 - Certification and declaration tools - http://standards.cen.eu/dyn/www/f?p=204:22:0:::FSP_ORG_ID,FSP_LANG_ID:904049,25&cs=17CEE6ABD62731B8DF67E7AC8ABC134B4

¹⁷⁵ EVA – Ethylene Vinyl Acetate, EVOH – Ethylene vinyl alcohol, HDPE – High-density polyethylene, PET – Polyethylene terephthalate, PETG – Polyethylene terephthalate glycol-modified, PP – Polypropylene, PS – Polystyrene, PVC – Polyvinylchloride

Closure	<ul style="list-style-type: none"> - PS closure in combination a with a PET, HDPE or PP bottle - PVC closure in combination with a PET, PP or HDPE bottle - PETG closures and/or closure material with density of above 1 g/cm³ in combination with a PET bottle - Closures made of metal, glass, EVA - Closures made of silicone. Exempted are silicone closures with a density < 1 g/cm³ in combination with a PET bottle and silicone closures with a density > 1g/cm³ in combination with PEHD or PP bottle - Metallic foils or seals which remain fixed to the bottle or its closure after the product has been opened
Barrier coatings	Polyamide, EVOH, functional polyolefins, metallised and light blocking barriers

No indications are given on the fact that all materials in the packaging should be separable by hand (paper, cardboard, plastic, metal, glass) for sorting as such a requirement would be difficult to verify. The requirement for the labelling of plastics parts has been removed in order to limit the number of requirements linked to recycling and recyclability and due to the fact that many recycling schemes use automated systems that do require the marking of plastic in order to separate polymers.

7.11.4 Consultation questions

1	How can the interpretation of <i>Ri</i> (refills and packaging reuse) be facilitated?
2	Should the exemptions for packaging containing 80% for recycled/sustainably sourced material be kept? Changed?
3	How should the applicant document the sourcing of material?

7.12 Fitness for use

7.12.1 Background

The performance test is primarily a quality requirement to ensure a satisfactory result of cleaning at the specified dosage of the EU Ecolabel product. A product that is effective at the dosage recommended on the label reduces the risk of overdosing since the user experiences that the product is effective and does not need to use more than recommended.

For each of the detergent product groups under revision, there are industry and other tests to assess the cleaning performance of the products. The methods for ascertaining the cleaning performance are specific for each type of detergent and have been updated throughout the years. The main reasons for these revisions are the changes in detergent composition, appliances, dishes or chemicals that are no longer available or that have been introduced in the market.

Regarding the performance tests in the current EU Ecolabel criteria, some difficulties in their application and heterogeneous wording were detected. The first is mainly due to the wide range of washing parameters in Europe (water hardness, types of soil, customer habits, and different types of machines) while the latter can be due to the different points in time when the EU Ecolabel criteria were developed.

Table 91 summarises the existing EU Ecolabel protocols and the standards referred to assess the washing performance of the products and shows the fitness for use criteria included in other national ecolabelling schemes. There are few standards and protocols and therefore the use of laboratory testing or user testing is needed.

Table 91 Comparison of the fitness for use requirements of selected ecolabels

Label	Restriction
Industrial and institutional automatic dishwasher detergents (IIDD)	
Nordic labelling	The performance of the single or multicomponent system must be satisfactory at the recommended dosage with soft water. The product must satisfy the requirements for the user test or internal testing in accordance with Appendix 5. The results from tests from at least 8 test locations shall be submitted along with a report summarising these results and specifying the number and position of respondents Dosing must agree with the producer's recommendations. The test period must last for at least four weeks. At least 80% of the test locations must assess the product as offering satisfactory or excellent performance on all accounts. Respondents must also be satisfied or very satisfied with the customer visit agreement. If the products that are destined for use in instrumental maintenance within health care (as defined in the products group definition) are tested according to the standard ISO 15883 no user tests are required. In case a test report from a certified laboratory showing that the tests have been carried out according to the standard with satisfying results shall be included as documentation.
Env. Choice NZ	The product must be fit for its intended use and conform, an appropriate, to relevant product performance standards. Performance of the product with respect to both cleaning ability and cleaning performance (the total amount of soil removed per dish wash) must be assessed.
Current EU Ecolabel	The performance and efficiency of the product must be satisfactory. The product must satisfy the requirements for the user test or internal testing in accordance with Appendix II. Either internal testing or user testing can be used
Consumer automatic dishwasher detergents (DD)	
Nordic labelling	Cleaning performance is to be tested in accordance with the standard test for dishwasher detergents developed by IKW, with the following amendments: -wash temperature 50 °C for the test product and 55 °C for the reference -water hardness 6 °dH -reference detergent IEC-D or IEC-B is to be used at a dose of 20 g -reference rinsing agent (formula III) at dose setting of between 2 and 3

Env. Choice NZ	The product shall be fit for its intended use and conform, as appropriate, to relevant product performance standards. Product performance with respect to both cleaning ability (ability to remove soil) and cleaning performance (the total amount of soil removed per wash) must be assessed
Good env choice AU	Test reports showing the product to be equal to or better than a reference detergent after the fifth wash cycle, based on EN 50242 conducted with the following modifications, or equivalent: <ul style="list-style-type: none"> - Tests shall be performed at 50 ± 2°C, with a cold prewash without detergent; - The machine used for testing shall be a 12 place setting machine with a 5 star or higher WELS rating; - The machine's drying program shall be used but only the cleanliness of the dishes assessed; - A mildly acidic rinsing agent according to the standard (formulation III) shall be used; - The rinsing agent setting shall be set to 2 or 3; - The manufacturer's recommended dosage shall be used during testing; and - Three trials shall be performed at the water hardness stated in the standard. One trial shall comprise five wash cycles with the results assessed after the fifth cycle without cleaning between cycles
Green Seal	Requires only a test 'using an objective, scientifically-validated method conducted under controlled and reproducible laboratory conditions' and in comparison to a market-leading product.
EU Ecolabel	Tests shall be carried out to ensure that the product has a satisfactory wash performance at the recommended dosage according to the standard test developed by IKW or the modified standard EN 50242:2008 The tests shall be carried out at 55C or at a lower temperature if the product claims to be efficient at this temperature. When applying for rinse aids in combination with dishwasher detergents, the rinse aid shall be used in the test instead of the reference rinse aid. For multifunctional products the applicant must submit documentation providing the effect of the claimed functions.
<u>Industrial and institutional laundry detergents (IILD)</u>	
Nordic labelling	The primary laundering effects of the detergent such as dirt removal and stain removal capacity must be documented by the manufacturer/applicant with the aid of artificially soiled test clothes which are washed in the process. The test must be conducted by a laboratory fulfilling the requirements in annex 4. The test must be conducted with soft water (0-6d°H). The measurements must be performed on unlaundered and laundered test clothes. Evaluation of the test results shall be made by the laboratory and it shall be clearly stated in the report. The measurements of the secondary effects such bleaching effect, bleaching factor, ash content, greying and fluidity increase shall be made with multiwash test clothes and analysed according to standard ISO 4312. Examples of what may be used as wash test clothes included the following: <ul style="list-style-type: none"> -WFK-PCMS-55 for industrial laundering processes, consisting of 13 different small dirt patches (WFK-Cleaning Technology Research Institute, Germany). - EMPA 102, consisting of 15 different fresh spots (Swiss EMPA-Testmaterials). -Wash clothes of DTI (Danish Technology Institute) for industrial washing processes or equivalent The laundry detergent shall meet the requirements for the user test in accordance with Appendix. Laundering effectiveness must be shown with the dosage for the same level of soiling as used in calculations in section 1.2 - Total content of environmentally harmful substances in laundering chemicals.
Env. Choice NZ	The product must be fit for its intended use and conform, as appropriate, to relevant product performance standards. Performance of the product with respect to both cleaning ability (ability to remove soil) and cleaning performance (the total amount of soil removed per dish wash) must be assessed.
EU Ecolabel	The primary laundering effects of the detergent such as dirt removal and stain removal capacity must be documented by the producer/applicant with the aid of artificially soiled test clothes which are

washed in the process.

The test may be conducted by an external or internal laboratory fulfilling the requirements in Appendix II¹⁷⁶. The test must be conducted with the recommended dosage and at the corresponding water hardness and the degree of soiling at the lowest recommended wash temperature. The measurements must be performed on unlaundered and laundered test clothes. Evaluation of the test results shall be made by the laboratory and it shall be clearly stated in the report.

The measurements of secondary effects such as bleaching effect, bleaching/damage factor, ash content, greying and fluidity increase can for instance be made with multi wash test clothes and analysed according to standard ISO 4312.

Examples of what may be used as wash test clothes included the following:

- WFK-PCMS-55 for industrial laundering processes, consisting of 13 different small dirt patches (WFK-Cleaning Technology Research Institute, Germany)
- EMPA 102, consisting of 15 different fresh spots (Swiss EMPA-Testmaterials)
- wash clothes of DTI (Danish Technology Institute) for industrial washing processes or equivalent

As an alternative to the above mentioned laboratory test, a user test may be used to document efficiency. The user test should then meet the requirements stated in Appendix II.

For both laboratory test and user test the following apply:

- The test product must be tested against a reference product.
- The reference product may be a well-established product on the market or, in the case of a user test, the product normally used by the user.
- The test product must show efficiency equal to or better than the reference product.

Consumer laundry detergents (LD)

Nordic labelling

The fitness for use shall be documented by use of the Nordic Ecolabelling Performance Test for laundry detergents and stain removers (Appendix 6)

The performance of colour safe detergent at the recommended dosage on normally soiled clothing must be satisfactory at 30 °C compared to the reference detergent tested at 40 °C.

For detergents for white wash and for stain removers the performance of the products must by the recommended dosage on normally soiled clothing be satisfactory at 40 °C compared to the reference detergent tested at 40 °C.

For detergents for delicates the performance must be satisfactory at the recommended dosage to lightly soiled clothing at 30 °C compared to water, which also is tested at 30 °C.

Please note that all the products always need to pass the performance test at the lowest temperature stated on the packaging or in another marketing material. If lower washing temperature than the normal temperature for the product type is stated (for example 30 °C stated on white wash), the washing efficiency has to be determined at this temperature. For cold water products (see the definition R18), the temperature should maximum be 20 °C. The reference is still to be washed at 40 °C for all product types except for detergents for delicates, where the reference is to be washed at 30 °C.

The performance test is performed with

- The reference dosage multiplied with 3.5 for washes in 3-5kg washing machines or
- The reference dosage multiplied by 4.5 for washes in 4-5kg washing machines.

See Appendix 1 (part 1B) concerning the requirements applicable to test institutions.

Heavy-duty laundry detergents:

The table below summarises the limit values for the performance parameters tested for heavy-duty laundry detergents according to the Nordic Ecolabelling Performance test:

	Heavy duty- white wash	Heavy duty, color wash
Cleaning effect:		
ΔY	$\leq 10^*$	$\leq 10^*$
ΔM	≤ 10	≤ 10
Average ΔM	< 5	< 5
Secondary effects:		
Greying	< 2.8	Not applicable
Encrustation	$< 0.6\%$	$< 0.6\%$

	Chemical wear	< 1.0 Rhes	Not applicable
	<p>* ΔY for one stain type may be < 20 ΔY is defined as follows: $\Delta Y = Y_r - Y_p$; where Y_r is the mean reflectance value for the reference detergent and Y_p is the mean reflectance value for the test product.</p> <p>ΔM is defined as follows: $\Delta M = M_r - M_p$; where M_r is the mean reflectance value for the soil type (bleachable, enzymatic (protease and amylase) or general) for the reference detergent and M_p is the mean reflectance value for the soil type for the product.</p> <p><u>Low-duty laundry detergents:</u> The ΔY for all soil strips must be less than -5. ΔY for one of the tested stain type can be 0,0. The dimension changes in relation to water must not exceed $\pm 2\%$. ΔY is defined as follows: $\Delta Y = Y_w - Y_p$; where Y_w is the mean reflectance value for water and Y_p is the mean reflectance value for the product. Products for washing of silk and products without specific declaration on type of textile must in addition meet the following requirements: Colour maintenance must be lower (better) than or equal to the average value for water. Stain removers Documentation must be submitted of the performance for all stain types for which the product is claimed to have an effect. If no particular stains are emphasised on the product, the product must be tested on a minimum of four different stain strips and the reasons for the choice of stains must be given. The following performance requirement must be met for the stain types tested. <u>Stain removers with subsequent washing</u> The normalised wash result for each stain type must be at least 110% in relation to the reference product. <u>Stain removers without subsequent washing</u> Stain removers that are used without subsequent washing (stain removers used e.g. for carpets or upholstery furniture) must fulfill one of the following two requirements: - Visual evaluation: the sum of the score must be at least 10 for each textile within each stain type. No result must be lower than a score of 2 - Mechanical evaluation: the Y value of the cleaned textile must be at least 80% in relation to the unsoiled textile</p>		
Env. Choice NZ	The product shall be fit for its intended use and conform as appropriate to relevant product performance standards. Performance of the product with respect to both cleaning ability and cleaning performance must be assessed		
EU Ecolabel	The product shall comply with the performance requirements as specified in the EU Ecolabel laundry detergents performance test's latest version		
<u>All-purpose cleaners consumer use (APC)</u>			
Nordic labelling	The product must through laboratory testing demonstrate equal or superior cleaning performance to a reference product within the same product category. The product must also clean better than water alone. If the product is marketed for both professional and consumer use it shall be tested against a professional product		
Env. Choice NZ	The product shall be fit for its intended use and conform as appropriate to relevant product performance standards. Performance of the product with respect to both cleaning ability and cleaning performance must be assessed		
Good Env Choice AU	To be certified, the products must be fit to perform its intended purpose or application The product must demonstrate fitness for purpose or market acceptance or suitability or quality. If reformulation takes place, the applicant must demonstrate that the new formulation also complies with this requirement.		
Green Seal	Standard performance requirements: each product, as used when dilute with water from the cold tap, shall clean common soils and surfaces in its category effectively, as measured by a standard test method. The criteria give details of recommended test methods by product groups: - general purpose cleaners: shall remove at least 80% of the particulate soil in ASTM int. D4488-95 -restroom cleaners: shall have a pH between 3-10 and tested following the requirements of an appropriate method as outlined in the standard		

	- glass cleaners: shall achieve at least a rating of three in each of the following consumer speciality products associations (CSPA) DCC09 categories: soil removal, smearing and streaking
EU Ecolabel	<p>The product shall be fit for use, meeting the needs of the consumers.</p> <p><i>(a) All-purpose cleaners and window cleaners</i></p> <p>For all-purpose cleaners, only fat-removing effects must be documented. For window cleaners, stripe-less drying must be documented. The cleaning ability must be equivalent to or better than that of a market-leading or generic reference product, approved by a competent body. The performance of the product must either be tested by:</p> <ul style="list-style-type: none"> — an adequate and justifiable laboratory test, or — an adequate and justifiable consumer test. <p>Both tests must be carried out and reported within specified parameters as stated in the framework described in 'Framework for testing the performance of all-purpose cleaners, window cleaners and sanitary cleaners' that can be found here: http://ec.europa.eu/environment/ecolabel/ecolabelled_products/categories/purpose_cleaners_en.htm</p> <p><i>b) Sanitary cleaners</i></p> <p>Sanitary cleaners include bathroom cleaners, toilet cleaners and kitchen cleaners. For bathroom cleaners, both limesoap and limescale removal shall be documented. For acidic toilet cleaners, only limescale removal shall be documented. For kitchen cleaners fat removing effects shall be documented.</p> <p>The cleaning ability must be equivalent to or better than that of the generic reference detergent specified below. The performance of the product must either be tested by:</p> <ul style="list-style-type: none"> — an adequate and justifiable laboratory test, or — an adequate and justifiable consumer test. <p>Both tests must be carried out and reported within specified parameters as stated in the framework described in 'Framework for testing the performance of all-purpose cleaners, window cleaners and sanitary cleaners'. The generic reference detergent shall be the one prescribed in IKW performance test 'Recommendation for the quality assessment of acidic toilet cleaners' (SÖFW-Journal, 126, 11, pp. 50-56, 2000). The reference detergent is applicable for toilet cleaners and bathroom cleaners; however the pH must be reduced to 3,5 for the testing of bathroom cleaners. http://www.ikw.org/pdf/broschueren/EQ_WC_Reiniger_Englisch.pdf</p>
<u>Hand dishwasher detergents consumer use (HDD)</u>	
Nordic labelling	<p>The performance test shall be conducted by a laboratory within the framework specified by laboratory test. The test results shall be documented in accordance with Appendix 5. The test shall be performed by a laboratory complying with laboratory requirements. The reference product is tested at the lowest recommended dosage that is stated on the packaging. If no dosage instructions are provided, the same dosage is used as for the test product. The test product is tested at the lowest recommended dosage.</p> <p>The reference product is defined as one of the well-established (3-4 market-leading) HDDs in a Nordic country or the Nordic region. The reference product shall be different from the product to be ecolabelled. The reference product must come from a different manufacturer than that of the product to be ecolabelled. The reference product must be purchased in connection with the performance of the test. The product shall be tested against another consumer product. If the product is marketed for both professional and consumer use it shall be tested against a professional product.</p>
Env. Choice NZ	<p>The product shall be fit for its intended use and conform, as appropriate, to relevant product performance standards. Performance of the product with respect to both cleaning ability (ability to remove soil) and cleaning performance (the total amount of soil removed per dish wash) must be assessed.</p>
EU Ecolabel	<p>The product shall be fit for use, meeting the needs of the consumers. The cleaning ability and cleaning capacity must be equivalent to or better than that of the generic reference detergent specified below. The cleaning ability and cleaning capacity must be tested by means of an adequate and justifiable laboratory performance test carried out and reported within specified parameters as stated in the framework described in 'Framework for testing the performance of hand dishwashing detergents' that can be found here: http://ec.europa.eu/environment/ecolabel/documents/performance_test.pdf</p> <p>The generic reference detergent shall be the one prescribed in IKW performance test 'Recommendation for the quality assessment of the cleaning performance of hand dishwashing</p>

	<p>detergents' with the adaptation that the dosage applied in the performance test is set at 2,5 ml of the reference detergent per 5 litres of water.</p> <p>The IKW performance test 'Recommendation for the quality assessment of the cleaning performance of hand dishwashing detergents' (SÖFW-Journal, 128, 5, pp. 11-15, 2002) method may be applied with the mentioned adaptation and can be downloaded from: http://www.ikw.org/pdf/broschueren/EQ_Handgeschirr_e.pdf</p>
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Appendix on laboratory and user test – Industrial and institutional automatic dishwasher detergents (IIDD)

(a) Internal testing

The manufacturer's test laboratory can be approved to conduct testing to document effectiveness if the following additional requirements are met:

- it must be possible for ecolabelling organisations to monitor the performance of testing,
- the ecolabelling organisation must have access to all data on the product,
- performance of the effectiveness test must be described in the quality control system.

The applicant must submit documentation proving that the product has been tested under realistic conditions:

(a) Dishes soiled with spots that are representative for the kind of soiled expected in the areas where the products will be marketed.

(b) Recommended dosage and at the corresponding water hardness at the lowest recommended wash temperature

The applicant must submit documentation proving:

- the product's ability to remove soiling from the dishes,
- the product's ability to dry the dishes.

The test product must be tested against a reference product. The reference product may be a well-established product on the market and the tested product must be at least as effective as the reference.

(b) User test

1. Responses must be obtained from at least five test centres representing a random selection of customers.
2. The procedure and dosage must conform to the manufacturer's recommendations.
3. The test period must continue for at least four weeks with at least 400 test cycles.
4. Every test centre must assess the effectiveness of the product or multi-component system by answering questions relating to the following aspects (or similar formulations):
 - the product's ability to remove soiling from the dishes,
 - the product's ability to dry the dishes,
 - the respondent's satisfaction with the agreement on customer visits.
5. The response must be rated on a scale comprising at least three levels, for example, 'insufficiently effective', 'sufficiently effective' or 'very effective'. With regard to how satisfied the test centre is with visit reporting arrangements, the categories must be 'not satisfied', 'satisfied' and 'very satisfied'.
6. At least 80 % must rate the product as sufficiently effective or very effective on all points (see point 4) and be satisfied or very satisfied with customer visiting arrangements.
7. All raw data from the test must be specified.
8. The test procedure must be described in detail.

Standards or well-described washing performance tests are referred to whenever possible. Laboratory tests and user tests are only recommended when appropriate standards are not available. Regarding the washing performance conditions of single- or multi-component detergents, most of the schemes highlight the need to carry out the testing under realistic conditions and according to the manufacturer's dosage recommendations at the water hardness to be tested, at the lowest water temperature the manufacturer claims the product is effective and at the lowest recommended concentration.

The testing must be conducted by a laboratory fulfilling the requirements of ISO 17025 or be an officially GLP-approved analysis laboratory.

Appendix on laboratory and user test – Industrial and institutional laundry detergents (IILD)

(a) Laboratory test

The analysis laboratory must meet the general requirements pursuant to standard EN ISO 17025 or be an officially GLP-approved analysis laboratory.

The applicant's analysis laboratory/measurement may be approved to conduct analyses and measurements if:

- the authorities monitor the sampling and analysis process, or
- the manufacturer has a quality system incorporating testing and analyses and which is certified in accordance with ISO 9001, or
- the manufacturer can show that there is conformity between a first-time test conducted as a parallel test between an impartial test institution and the manufacturer's own laboratory and that the manufacturer takes samples in accordance with a prescribed sampling plan.

The manufacturer's test laboratory can be approved to conduct testing to document effectiveness if the following additional requirements are met.

- It must be possible for ecolabelling organisations to monitor the performance of testing
- The ecolabelling organisation must have access to all data on the product
- The samples must be made anonymous for the test laboratory
- Performance of the effectiveness test must be described in the quality control system.

(b) User test

1. Responses must be obtained from at least five test centres representing a selection of customers.
2. The procedure and dosage must conform to the manufacturer's recommendations.
3. The test period must continue for at least four weeks.
4. Every test centre must assess the serviceability of the product or multi-component system, dosability, compressibility, rinsing and solubility.
5. Every test centre must assess the effectiveness of the product or multi-component system by answering questions relating to the following aspects (or similar formulations):
 - (a) ability to launder lightly, moderately or heavily soiled articles to be washed;
 - (b) an assessment of primary laundering effects such as dirt removal, stain removal capacity and bleaching effect must be rated;
 - (c) assessment of secondary laundering effects such as greying of white washing and colour-fastness and staining of coloured washing;
 - (d) assessment of the effect of the rinsing agent on drying, ironing or mangling of the articles to be washed;
 - (e) how satisfied the test subject is with customer visiting arrangements.
6. The response must be rated on a scale comprising at least three levels, for example, 'insufficiently effective', 'sufficiently effective' or 'very effective'. With regard to how satisfied the test centre is with visit reporting arrangements, the categories must be 'not satisfied', 'satisfied' and 'very satisfied'.
7. At least five test centres must submit responses. At least 80 % must rate the product as sufficiently effective or very effective on all points (see point 4 and be satisfied or very satisfied with customer visiting arrangements).
8. All raw data from the test must be specified.
9. The test procedure must be described in detail.

7.12.2 Laboratory requirements, laboratory tests and user tests

Regarding the current information provided in the Appendix of the current EU Ecolabel criteria, harmonization among the requirements of the laboratories and the conditions to carry out and reporting the results from laboratory tests and users tests are addressed in this section.

There are several aspects of the current EU Ecolabel criteria for fitness for use that have caught the attention of the stakeholder:

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- a) **the links to the EU Ecolabel washing performance tests** and in some case the IKW washing performance tests have been removed and replaced by the available links
- b) the "**EN 50242:2008** Electric dishwashers for household use. Test method for measuring the performance" refers only to powder detergents and any suggestion for a modification to adapt the method to liquid and other detergent forms is requested. Additionally the current modification of this standard to test the products requires a temperature of 55C
- c) "*For **kitchen cleaners** fat removing effects shall be documented*" and it has been **included the evaluation of burnt on soil removal**

Concerning the EU Ecolabel protocols for fitness for use that the EU Ecolabel criteria refer to, the feedback from the stakeholders is that the **target performances are easy to reach** and that the **reference products have to be adapted and harmonized across Europe**.

Some of these suggestions include

- an increase in the number of repetitions reaching 20 in all the cases
- an **attachment with the chemical characterization** to the performance test to allow a further quality control

In this section, it is proposed guidance for the three following points to be included in the EU Ecolabel criteria

7.12.2.1 Laboratory requirements

The laboratory that carries out the tests can be an internal or an external laboratory. The laboratory can be approved to conduct testing to document effectiveness of the detergents if the following requirements are met:

- a) the external analysis laboratory must meet the general requirements pursuant to standard EN ISO 17025 "General requirements for the competence of testing and calibration laboratories" or be an official GLP- approved analysis laboratory
- b) the internal applicant analysis laboratory may be approved to conduct analyses if
- the authorities monitor the sampling and analysis of the process, or
 - the manufacturer can show that there is conformity between a first-time test conducted as a parallel test between an impartial test institution and the manufacturer's own laboratory and that the manufacturer takes samples in accordance with a prescribed sampling plan
- c) the internal manufacturer test laboratory can be approved to conduct testing to document effectiveness if the following additional requirements are met:
- it must be possible for ecolabelling organizations to monitor the performance testing
 - the ecolabelling organization must have access to all data on the product
 - the samples must be made anonymous for the test laboratory
 - performance of the effectiveness test must be described in the quality control system

If the product does not have a standard test method or an EU Ecolabel test protocols, it can be assessed by means of internal or external laboratory tests or, as the last alternative by means of user tests. The minimum requirements for both kinds of tests are included below.

7.12.2.2 Laboratory tests

Laboratory test means that the test product is tested under laboratory conditions against a reference product (that should be well established/known on the market. It usually refers to the 2-3 lider brands on the market). The reference product shall be in the same product category and have the same area of use as the test product. The test product must be equally or more effective than the reference product and more effective than water in order to pass the performance test (e.g. the tested cleaning product must clean better than water alone).

The requirements of the performance test – laboratory test are:

1 – **Goal:** the product must through laboratory testing demonstrate equal or superior cleaning performance to a reference product with the same product category. The product must also clean better than water alone. If the product is marketed for both professional and consumer use it shall be tested against a professional product.

2 – **Procedure:** the test institute must fulfil these framework requirements so that the test provides a reliable result.

a) **Reference product:** the test product and comparative reference product shall be tested in the same way. Both products shall belong to the same category (professional/consumer or RTU/concentrated) and designed for the same area of use (WC, laundry, kitchen, etc) that is referred in the definition of the product group. The reference product must be recently purchased.

b) **Dosage:** the lowest specified dosage for normal soils/normal use of the test product and the reference product respectively shall be used for the performance test

c) **Water test:** a water test shall be performed using the same quantity of water as in the other tests. Data from the water test shall be collated together the other test data. The test and the reference product must both perform better than water alone.

The test shall be performed at the lowest recommended wash temperature, or the lower temperature the product claims that is efficient

d) **Soil:** the soiling used for each test must be relevant to the product's intended area of use of the product, homogenous and based on well-described and internationally available substances. Examples and minimum soil removal tests are shown in Table 92.

Table 92 Relevant soil for each detergent

Product/area of use	Soil(s)
Sanitary cleaner and WC cleaner	Fat/lime soap and limescale (de-scaling performance)
All-purpose cleaner and kitchen cleaner	Fat
Window and glass cleaner	Fat (footprints) and particulate matter (dust and/or soot)
Kitchen cleaner	Fat and burnt on soil
Consumer laundry detergents	Tea, coffee, red wine, fruit juice, tomato puree, carrot baby food, French squeazy mustard, chocolate, grass, grass/mud, blood, unused motor oil, frying fat, make up
Consumer dishwasher detergents	Coloured, bleachable soils (eg tea, ketchup, carrot juice, curry saffron, lipstick) Persistent burnt soil (burnt meat, burnt custard, burnt milk, burnt casseroles, etc) Dried starchy soil (amylase-specific) (eg porridge, starchy sauces, gravies, casseroles such as pasta, rice, potatoes, remains of dough/batter, baked-on residues) Dried, proteinaceous soil (protease-specific) (eg egg yolk, casseroles such as cheese, meat and eggs)

e) **Method of cleaning:** the method of cleaning shall be relevant to the product type. The test shall be performed for the soil types specified in Table 92 that are relevant to the product's area of use.

De-scaling performance can be determined by gravimetric analysis. Fat-removing performance is determined by reflectance. The removal of particulate matter can be determined by gravimetric analysis or reflectance.

g) **Description of the test:** the same number of repetitions shall be performed for the test product, reference product and water (it is proposed 20 times per

product). One batch of soil that is sufficient to all tests shall be used. The soil shall be applied to at least 30 test pieces of relevant materials/surfaces.

The test shall be performed using a random selection of soiled test pieces, eg at least 10 pieces shall be chosen at random for the test product, the same number for the reference product and the same number for the water test.

The reflectance of all plates/surfaces/materials must be measured before the soil is applied, after the soil has been applied and after washing. Effectiveness is calculated separately for each plate/surface/material and recorded in a table

h) **Calculation of the wash effectiveness index (EFF):** it is calculated using the following formula:

$$EFF = (Rc - Rb) / (Ra - Rb)$$

Where:

Ra is the reflectance before soiling,

Rb is the reflectance after soiling and

Rc is the reflectance after washing.

This is performed for each individual product: the reference product, the test product and the water, getting the values for EFFp (product), EFFs (reference product) and EFFw (water).

3 - Requirement levels to pass the test must fulfil:

a) It must be shown with 95% unilateral confidence interval that the test product has a wash effectiveness that is greater than or equal to that of the reference product, account being taken of uncertainty.

b) $EFFp > EFFs$

c) Irrespective of the method of evaluation (a or b) the following shall be fulfilled: $EFFp > EFFw$

4 - Reporting of the results

The applicant must submit documentation providing that the product has been tested under realistic conditions, including:

a) surfaces and material soiled with spots that are representative for the kind of soiled expected in the areas where the products will be marketed

b) recommended dosage and at the corresponding water hardness at the lowest recommended wash temperature.

The applicant must submit documentation providing:

- the products ability to remove soiling from the surfaces or materials. In the case of laundry detergents the ability to launder slightly, moderately or heavily soiled articles (primary effect)

- the product or multicomponent system ability to perform other tasks such as dry the dishes, greying of white washing and colour fastness, staining of coloured washing, effect of rising agent on drying, ironing or mangling of the articles to be washed, etc (secondary effects)

c) an attachment with the chemical characterization to the performance test to allow a further quality control

7.12.2.3 User tests

The user test means that the product is distributed along with a questionnaire to a selection of test individuals/companies. The product is tested at least five times at each location. The tester compares the performance of the test product with that of the product they normally use (reference product). The reference product shall belong to the same product category and be intended for the same area of use. The tester shall then evaluate effectiveness based on the following parameters;

- ability to remove soil
- gentleness to the surface being cleaned
- performance

For a positive test result, 80% of the test individuals must respond that the product is equally or more effective than the reference product. The product shall perform better than water too. The user test is the last option to test the washing performance of the detergents and it is only recommended for professional products. Professional users have more experience through their profession of cleaning making such testing more relevant.

1- Conduction of the user test

This section describes the way in which a professional product test is to be performed, in case no standards or laboratory tests can be applicable. The purpose of the test is to demonstrate whether or not the test product for which an EU Ecolabel licence is sought is as good as or better than a comparative product and the water alone. The test must also demonstrate if the test product hams the surfaces that it is marketed for use on.

a) **Quality requirements:** at least 80% of the test persons must assess the product to be as good as or better than the reference product in order to fulfil the performance test in all the points and be satisfied or very satisfied with customer visiting arrangements

b) **Test individuals must be professional users of the cleaning product.** At least five professional users shall test the product. The five individuals shall be randomly chosen and shall come from five different organizations

c) **The comparative/reference product must not be the same as the test product** and must be normally used by the user. The test product and the comparative product may be produced by the same manufacturer

d) **Performance of the test:** The test must be performed on the type(s) of surface/materials relevance in relation to the recommendations of the product label. The dosage used must be the minimum dosage specified on the label for normal soil and the test water hardness. Likewise, the dosage of the comparative product must be the lowest recommended dosage for normal soil at the same water hardness

The duration of the test period must be sufficient for the test procedure to be used at least five times by the test user on the same place. For example, for dishwasher detergents it is recommended that the test period last at least four weeks with at least 400 cycles and for laundry detergents that the test period lasts at least four weeks.

2- Performance questionnaire

Each test individual must complete all questions on the questionnaire (one questionnaire shall be completed per product). The responses shall be tabulated indicating the number of responses and number of each answer. The applicant must also document which individuals have answered the questionnaire and the percentage of answers. It must be demonstrated that the recipe of the test product at the time of the performance test is the same as the submitted on application to the competent body.

The assessment of each test centre on the effectiveness of the product or multi-component system should be provided by answering questions related to the following aspects (or similar formulations):

For dishwasher detergents:

- the product's ability to remove soiling from the dishes
- the product's ability to dry dishes
- the respondent's satisfaction with the agreement on customer visits

For laundry detergents

- ability to launder lightly, moderately or heavily soiled articles to be washed
- an assessment of primary laundering effects such as dirt removal, stain removal capacity and bleaching effect must be rated

- assessment of secondary laundering effects such as greying of white washing and colour-fastness and staining of coloured washing

- how satisfied the test subject is with customer visiting arrangements

3- Documentation requirements/reporting of the results: the following documentation must be submitted to the competent body.

- a description of the way in which the test users were selected
- all raw data from the test must be specified
- the test procedure must be described in detail

- all reply forms received from the test users
- the overall result/all replies on the wash performance of the user test specified in a table/ a form. The response must be rated on a scale comprising at least three levels, eg 'insufficiently effective', 'sufficiently effective' or 'very effective'.
- With regard to how satisfied the test centre is with visit reporting arrangements, the categories must be "not satisfied", "satisfied" and "very satisfied"

7.12.3 Proposed common template

Criterion "Fitness for use"

Tests shall be carried out to ensure that the product has a satisfactory wash performance at the lowest recommended dosage for the water hardness according to (in descent order):

- appropriate international standards (eg. modified standard EN 50242:2008)
- EU Ecolabel protocols
- well-known test procedures such as IKW procedures
- laboratory tests, or
- user tests

The tests shall be carried out at the water temperature stated in the standards/protocols or at the lowest temperature the product claims to be effective at. The test shall be performed by a laboratory that meets the requirements in **Appendix** (to be added)

If a laboratory tests is needed, the reference product is tested at the lowest recommended dosage that is stated on the packaging. If no dosage instructions are provided, the same dosage is used as for the test product..

The product shall be tested against another consumer product. If the product is marketed for both professional and consumer use it shall be tested against a professional product

When applying for rinse aids in combination with dishwasher detergents, the rinse aid shall be used in the test instead of the reference rinse aid. For multifunctional products the applicant must submit documentation providing the effect of the claimed functions.

Assessment and verification: The applicant shall provide documentation confirming that the product has been tested under the realistic conditions and following one of the above mentioned test methods. Information should be provided demonstrating:

- a) The recommended dosage at the corresponding water hardness and the lowest recommended wash temperature at which the product claims to be effective
- b) Type of spots that are representative for the kind of soiled expected in the areas where the products will be marketed
- c) The performance of the tests (all raw data from the test, test procedure descriptions, Information about the reference product against which the test product has been tested: market leadership, lowest commended dosage or dosage used (if no information is provided) and temperature, date of purchase and date of testing, etc)
- (d) The product's ability to remove soiling from the surfaces or materials and the effectiveness of other products the detergent shall be used with (eg. rinse aids) (results from the test conducted by the laboratory or reply forms from the user tests)
- (e) Documentation confirming the compliance within the laboratory requirements included in Appendix (to be added).

If a user test is performed, the applicant should provide information on:

- (a) the way the test users were selected, all raw data from the tests and the test procedure
- (b) all reply forms received from the test users and the overall result on the wash performance of the user test specified in a table/a form. The response must be rated in accordance with Appendix (to be added)
- (c) information on how satisfied the test center is with visit reporting arrangements and the categories rated.

Regarding the product groups under revision, Table 93 shows the preferred option to test their fitness for use

Table 93 Recommended test methods for washing performance ascertaining

Product	Test method
LD	The revised EU Ecolabel performance test for consumer laundry detergents introduced in 2014 (20/06/2014) as a separate activity to this EU Ecolabel criteria revision. http://ec.europa.eu/environment/ecolabel/documents/Performance%20Test%20Laundry%20Detergents.pdf
IILD	Wash test clothes such as -WFK-PCMS-55 for industrial laundering processes (WFK-Cleaning Technology Research Institute, Germany). - EMPA 102 (Swiss EMPA-Test materials). -Wash clothes of DTI (Danish Technology Institute) for industrial washing processes or equivalent The measurement of secondary effects such as bleaching effect, bleaching/damage factor, ash content, greying and fluidity increase can for instance be made with multi wash test clothes and analysed according to standard ISO 4321 "Surface active agents -- Evaluation of certain effects of laundering -- Methods of analysis and test for unsoiled cotton control cloth" As an alternative to the laboratory test, a user test may be used to document effectiveness.
DD	The IKW performance test: 'Methods for ascertaining the cleaning performance of dishwasher detergents' available at http://www.ikw.org/fileadmin/content/downloads/Haushaltspflege/HP_DishwasherA_B_e.pdf or the modified standard EN 50242: Electric dishwashers for household use. Test method for measuring the performance
IIDD	Internal testing or user tests
APC	EU Ecolabel protocols 'Framework for testing the performance of all-purpose cleaners, window cleaners and sanitary cleaners' that can be found here: http://ec.europa.eu/environment/ecolabel/ecolabelled_products/categories/purpose_cleaners_en.htm IKW framework for testing of all-purpose cleaners, window cleaners and sanitary cleaners' cleaning performance: http://www.ikw.org/fileadmin/content/downloads/Haushaltspflege/HP_EQ-Allzweck-englisch.pdf IKW performance test 'Recommendation for the quality assessment of acidic toilet cleaners': http://www.ikw.org/fileadmin/content/downloads/Haushaltspflege/HP_EQ-Allzweck-englisch.pdf
HDD	EU Ecolabel framework for testing the performance of hand dishwashing detergents: http://ec.europa.eu/environment/ecolabel/documents/performance_test.pdf The IKW performance test 'Recommendation for the quality assessment of the cleaning performance of hand dishwashing detergents' method may be applied with the an adaptation ¹⁷⁷ : http://www.ikw.org/pdf/broschueren/EQ_Handgeschirr_e.pdf

¹⁷⁷ 'Recommendation for the quality assessment of the cleaning performance of hand dishwashing detergents' with the adaptation that the dosage applied in the performance test is set at 2,5 ml of the reference detergent per 5 litres of water.

7.13 User information

7.13.1 Background

Information appearing on the packaging and/or information sheets shall provide useful information on how the product must be effectively used to achieve the best cleaning results whilst minimising the environmental impacts.

According to the information provided in the Preliminary Reports, the information given to consumers and professionals should be focused on the following points:

7.13.1.1 Dosage and avoidance of overdosing

Dosage instructions provide the information necessary for users to simultaneously optimise the product use to achieve the required performance, while minimising the environmental impact of the detergent. The LCA studies included in chapter 4 of the respective Preliminary Reports indicate that over-dosing has a significant impact on the overall environmental performance, as explained in Section 7.6.

The dosage needed to achieve an optimal performance depends on several factors, but especially on the hardness of the water used for washing, the degree of soiling and the wash load. Therefore, user knowledge and behaviour could be beneficially influenced by access to better information on both the hardness of water in their location and the characteristics of what a 'standard' wash is considered. Packaging design and use instructions can heavily influence ability to dose correctly, especially for loose powders and liquids.

The current EU Ecolabel criteria on consumer information include a reference to the proper dosage of the detergent as well as most of the revised national ecolabels schemes (see Table 94). This reference is not harmonized among the detergent products. In order to bring clarity in this point and to align the information given to the consumers and professional users, the text is proposed to be changed including the dosing instructions for various water hardness and various levels of soiling.

7.13.1.2 Water temperature and water consumption

Generally speaking in Europe, the water used in the washing processes is heated up by using fossil fuels. The source of energy – renewables or otherwise – has a significant impact on CO₂ emissions and climate change. Whilst the source of energy to be used in the washing processes cannot be enforced neither in the domestic consumer domain nor in the professional one, a rational and efficient use of the energy and water can help to decrease the environmental impacts due to the washing process.

Consumers and professionals are in the position to decide the water temperature for the washing process. Accordingly, precise and clear information is proposed for addition to the criterion which alerts users and consumers to the environmental benefits that might be achieved by an appropriate choice of water temperature. Similarly information should be added to encourage end-users to set wash full loads, saving water consumptions and reducing water pollution.

Most of the current EU Ecolabel criteria for detergents and Ecolabel criteria from other schemes include recommendations on these points. However, these recommendations are not harmonized among the products. Thus, the revision of the text proposes the recommendation on washing at the lowest temperature the product claims effectiveness (or as default temperature 50C for consumer dishwasher detergents and 30C for laundry detergents), diluting the product with cold tap water (if applicable) or washing beddings and clothes at 60C if the users suffer from allergies to house dust or infectious diseases (if applicable).

Similarly, the information should encourage users do not use running water but immerse the dishes (for HDD) and wash full loads (for laundry and dishwasher detergents)

7.13.1.3 Packaging recycling

Information about the end-of-life stage of the packaging and how the end users can help to reduce its environmental impact is important. This information is required to be included in other ecolabels while it is not present in the current EU Ecolabel criteria sets for detergents. However, recycling labels are mandated on packaging for other recently reviewed product groups, such as rinse-off cosmetics. It is proposed to include information on the packaging of the EU Ecolabel detergents too.

7.13.1.4 Labelling of ingredients

The requirement to indicate the type of enzyme has been removed to bring the criteria in line with consumer laundry and industrial and institutional laundry detergents criteria. The indication of the type of enzyme is in addition to the legal requirements in the Detergent Regulation (EC) No. 648/2004 regarding labelling (annex VII) and is felt to be unnecessary.

7.13.2 Current state of the information given to users

The existing labels provide similar but different information aspects to the users. The points addressed depend on the region to be marketed (e.g. dosage at different hardness levels), use of the products, intended users, etc. As seen in most of the schemes the information for the consumers is joint to the information appearing on the logo and to the claims of the product. In this revision, we proposed to separate these sections into two criteria to be in line with other EU Ecolabel criteria sets. Additionally, it is proposed to call this criterion "user information" as at this point there is a variety of names. Table 94 summaries the criterion on Consumer information or user information of selected ecolabelling schemes

Table 94 Summary of the current wording for consumer information or user information criteria in selected ecolabelling schemes

Label	Criteria
Industrial and institutional automatic dishwasher detergents (IID)	
EU Ecolabel	<p>The following recommendations must appear on the packaging, and/or product information sheet or equivalent:</p> <ul style="list-style-type: none"> - dose according to soil and water hardness, follow the dosing instructions - using this EU Ecolabel product according to the dosage instructions will contribute to the reduction of water pollution, waste production and energy consumption. <p><u>Information appearing on the EU Ecolabel:</u></p> <p>The logo should be visible and legible. The use of the EU Ecolabel logo is protected in primary EU law. The EU Ecolabel registration/licence number must appear on the product, it must be legible and clearly visible.</p> <p>The optional label with text box shall contain the following text:</p> <ul style="list-style-type: none"> - reduced impact on aquatic ecosystems - limited hazardous substances - performance tested <p>The guidelines for the use of the optional label with text box can be found in the "Guidelines for use of the Ecolabel logo" on the website: http://ec.europa.eu/environment/ecolabel/documents/logo_guidelines.pdf</p>
Consumer automatic dishwasher detergents (DD)	
Nordic labelling	<p>The following should be clearly stated on the label:</p> <ul style="list-style-type: none"> - the recommended dosage for soft water and a recommendation is to be given to use salt to soften the water in the dishwasher - information stating that the product is efficient at/from 50C (or lower if tested at a lower temperature) <p>Exceptions:</p>

	If multifunction products meet the performance requirement without added salt in the machine, the recommendation about salt does not need to be given. The requirement does not apply to rinsing agents.
Env. Choice NZ	<p>The detergents shall be accompanied by instruction for proper use so as to maximise product performance and minimise waste. These instructions shall include information on reuse, recycling and/or correct disposal packaging</p> <p>The applicant shall take suitable steps to help the consumer respect the recommended dosage, for example making available a dosage device (e.g. liquid or powdered products), and/or by indicating the recommended dosage at least in ml (for powder or liquid products)</p> <p>A recommendation shall appear on the packaging for the consumer to contact their water supplier or local authority to find out the degree of hardness of their tap water.</p> <p>All dishwashing detergents must display on the container a list of product ingredients that complies with the labelling requirements of the New Zealand law.</p> <p>The following or equivalent words should be clearly displayed on the packaging: "all detergents have an effect on the environment. Always use the correct dose for maximum efficiency and minimum environmental impact. Use the lowest recommended temperature". Any proposed changes/alterations to this wording must be submitted to and approved by The Trust.</p> <p>All packaging shall include a website reference where a copy of the product data sheet can be obtained.</p>
Singapore green labelling	<p>Instructions requiring the appropriate use of the product to enhance performance and generate lesser waste (eg reuse/recycle and disposal methods) should be available to consumers.</p> <p>Product ingredients must be clearly visible on the product packaging in accordance with the labelling criteria stated in the Article 11 of the detergent directive and the amended version in 907/2006/EC</p>
EU Ecolabel	<p>The following information on text shall appear on the packaging:</p> <p><u>a) Information on the packaging</u></p> <p>This EU Ecolabel detergent works well at low temperatures (*). Select low temperature washing cycles on the dishwasher, wash full loads and do not exceed the recommended dosage. This will minimise both energy and water consumption and reduce water pollution.</p> <p>(*) the applicant shall insert here the recommended temperature or range at temperatures that shall not exceed 55C.</p> <p><u>b) dosage instructions</u></p> <p>Dosage instructions shall appear on the product packages. The recommended dosages shall be specified for the ranges of water hardness appropriate to where the product is marketed. The instructions shall specify how to make best use of the product according to the soil</p> <p>The applicant shall take suitable steps to help the consumer respect the recommended dosage, for example, by making available a dosage device (for powdered or liquids products) and/or by indicating the recommended dosage at least in ml (for powdered or liquid products).</p> <p><u>c) Information and labelling of the ingredients.</u></p> <p>The type of enzymes shall be indicated on the packaging</p> <p><u>Information appearing on the EU Ecolabel:</u></p> <p>The optional label with text box shall contain the following text:</p> <ul style="list-style-type: none"> - reduced impact on aquatic ecosystems - limited hazardous substances - performance tested <p>The guidelines for the use of the optional label with text box can be found in the "Guidelines for use of the Ecolabel logo" on the website: http://ec.europa.eu/environment/ecolabel/documents/logo_guidelines.pdf</p>
<u>Industrial and institutional laundry detergents (IILD)</u>	
Env. Choice NZ	<p>The detergents must be accompanied by instruction for proper use so as to maximise product performance and minimise waste. These instructions shall include information on reuse, recycling and/or correct disposal packaging</p> <p>The label, or an accompanying technical product data sheet, must include details of the recommended dosage (in ml or g) for in kg of laundry to be washed for different levels of soiling and for different water hardness.</p> <p>The following or equivalent words should be clearly displayed on the packaging: "<i>all detergents have an effect on the environment. Always use the correct dose for maximum efficiency and minimum environmental impact. Use the lowest recommended temperature</i>". Any proposed</p>

	changes/alterations to this wording must be submitted to and approved by The Trust.
EU Ecolabel	<p>Under the existing criteria, the following washing recommendations shall appear on the packaging:</p> <ul style="list-style-type: none"> - wash at the lowest possible temperature - always wash with full load - dose according to soil and water hardness, follow the dosing instructions - if you are allergic to house dust, always wash bedding at 60C . increase wash temperature to 60C in case of infectious diseases - using this EU Ecolabel product according to the dosage instructions will contribute to the reduction of water pollution, waste production and energy consumption
<u>Consumer laundry detergents (LD)</u>	
Nordic labelling	<p>Dosage instructions Water hardness for the recommended dosage must be stated in German degrees of hardness (°dH). Water hardness must be expressed in ranges that are relevant to the geographic areas in which the product is on sale. See also requirement R9 regarding dosage limits for different degrees of soiling.</p> <p>Mandatory consumer guidance on packaging The Nordic Ecolabel with correct license number shall be present on the packaging. The label/packaging must clearly indicate the temperature at which the product has been performance tested, e.g. "Efficient at 40 °C" (In R19 it is stated which test temperatures should be used for the different product types). The following washing advices (or equivalent) shall appear on the packaging of laundry detergents (not applicable for stain removers). The washing advices may be present either as text or symbols.</p> <ul style="list-style-type: none"> - Preferably wash with full load - Dose correctly according to soil and water hardness. Overdosing does not make the laundry cleaner and is harmful for the environment - Reduce the temperature of your normal wash programmes to safeguard the environment - If you are allergic to house dust, always wash bedding at 60 °C or above - Run a 60 °C wash now and again with a bleach containing detergent (white wash powder detergent) and follow the machine manufacturer's recommendations regarding maintenance - Leave the machine open between washes <p>In cases where the whole text on the label must to appear in two or more languages, e.g. due to official language minority considerations in the country, and the size of the packaging is too small to include all the washing advices above on the (for the size of the product) ordinary label, the applicant can be excepted from writing the last three washing advices on the label. In these cases the applicant has to ensure that the information regarding the last three washing advices will be available for the consumers otherwise (e.g. via advertising material or homepage).</p> <p>Claims on the packaging Products marketed as cold water products* should pass the performance test in R19 at the lowest indicated temperature where the effect of the product is stated - but maximum at 20 °C. Reference is still washed at 40 °C. *i.e. "cold water product" or similar text or symbol (for example washtub with 20 °C), indicating a normal user temperature at < 30 °C. A stain remover must always pass the performance requirements (R19) for any specific stain type for which the product claims to be effective. Documentation for other performance related claims shall be made available to Nordic Ecolabelling on request. If claims are made regarding the content of certified raw materials (e.g. organically grown ingredients), the total content in weight percent of these ingredients must be clearly stated on the pack (e.g. "contains x% organic ingredients"). The certification body, system or standard must be indicated. Documentation for certified ingredients must be provided according to R11.</p>
Env. Choice NZ	<p>The laundry detergents shall be accompanied by instruction for proper use so as to maximise product performance and minimise waste. These instructions shall include information on reuse, recycling and/or correct disposal packaging. The applicant shall take suitable steps to help the consumer respect the recommended dosage, eg making available a dosage device (for powdered or liquid products), and/or by indicating the</p>

	<p>recommended dosage at least in ml (for powdered or liquid products).</p> <p>A recommendation shall appear on the packaging for the consumer to contact their water supplier or local authority in order to find out the degree of hardness of their tap water.</p> <p>All laundry detergents must display on the container a list of product ingredients that complies with the labelling requirements of Article 11 of Regulation (EC) No 648/2004 and amended by Regulation (EC) No 907/2006.</p> <p>The following or equivalent words should be clearly displayed on the packaging: "<i>all laundry detergents have an effect on the environment. Always use the correct dose for maximum efficiency and minimum environmental impact. Use the lowest recommended temperature</i>". Any proposed changes/alterations to this wording must be submitted to and approved by The Trust.</p> <p>All labelling shall comply with the requirements of the HSNO legislation or the appropriate hazardous substance legislation for the country where the product is sold.</p> <p>All packaging shall include a website reference where a copy of the product data sheet can be obtained.</p>
Singapore green labelling	<p>Instructions guiding the appropriate use of the product to enhance performance and generate lesser waste (eg reuse/recycle and disposal methods) should be available to consumers.</p> <p>Product ingredients must be clearly visible on the product packaging in accordance with the labelling criteria stated in Article 11 of the Regulation (EC) No 648/2004 and the amended version in Regulation (EC) No 907/2006</p>
EU Ecolabel	<p>The following information on text shall appear on the packaging:</p> <ul style="list-style-type: none"> - wash at the lowest possible temperature - always wash with full load - dose according to soil and water hardness, follow the dosing instructions - if you are allergic to house dust, always wash bedding at 60C . increase wash temperature to 60C in case of infectious diseases - using this EU Ecolabel product according to the dosage instructions will contribute to the reduction of water pollution, waste production and energy consumption <p><u>Information appearing on the EU Ecolabel:</u></p> <p>The logo should be visible and legible. The use of the EU Ecolabel logo is protected in primary EU law. The EU Ecolabel registration/licence number must appear on the product, it must be legible and clearly visible.</p> <p>The optional label with text box shall contain the following text:</p> <ul style="list-style-type: none"> - reduced impact on aquatic ecosystems - limited hazardous substances - performance tested
<u>All-purpose cleaners consumer use (APC)</u>	
Nordic labelling	<p>The following should be clearly stated on the label:</p> <ul style="list-style-type: none"> - the information text on the packaging must comply with Regulation (EC) No 648/2004 and the amended version in Regulation (EC) No 907/2006 - for products to be sold in Norway, documentation must also be submitted to demonstrate that '<i>uten fosfat</i>' (phosphate free) is displayed on the label.
Env. Choice NZ	<p><u>Consumer cleaning products</u></p> <p>The product shall be accompanied by instruction for proper use so as to maximise product performance and minimise waste. These instructions shall include information on reuse, recycling and/or correct disposal packaging.</p> <p>If the product requires dilution before use, the recommended dosage at a normal level of soiling/normal use must be stated clearly on the primary packaging in ml/l diluting water.</p> <ul style="list-style-type: none"> - a second well-known metric, such as teaspoons, shall additionally be given in brackets. However, if the packaging has an efficient and convenient dosing system that can provide an equally reliable dosage, an alternative metric (eg capfuls, squirts, or other) can be used. - the dosing instructions may be stated for various water hardness and for various levels of soiling <p>All products must display on the container a list of product ingredients that complies with the labelling requirements of Article 11 of Regulation (EC) No 648/2004 and amended by Regulation (EC) No 907/2006.</p>

	<p>The following or equivalent words should be clearly displayed on the packaging: "<i>all laundry detergents have an effect on the environment. Always use the correct dose for maximum efficiency and minimum environmental impact. Use the lowest recommended temperature</i>". Any proposed changes/alterations to this wording must be submitted to and approved by The Trust.</p> <p>All labelling shall comply with the requirements of the HSNO legislation or the appropriate hazardous substance legislation for the country where the product is sold.</p> <p>All packaging shall include a website reference where a copy of the product data sheet can be obtained.</p> <p>The product data sheets shall be prepared and available on a website with public access and shall include:</p> <ul style="list-style-type: none"> - the product name - contact details of the NZ importer, supplier or manufacturer including a phone number - listing of all hazardous ingredients added to the product - identification of any hazards associated with the product as sold and used - directions for use, including relevant dilution rates and dose rates, and - disposal information <p><u>Industrial and institutional cleaning products</u></p> <p>The product shall be accompanied by instructions for proper use so as to maximise product performance and minimise waste. These instructions shall include information on reuse, recycling and/or correct disposal of packaging.</p> <p>The manufacturer's label must include English and a graphical representation or icons, to assist illiterate or non-English speaking personnel.</p> <ul style="list-style-type: none"> - icons shall be included to explain dilution, use and appropriate PPE only, appropriate hazard symbols must also be included on the label, where necessary - the recommended dosage and dilution instructions at a normal level of soiling/normal use must be stated clearly on the primary packaging in ml/l diluting water - a second well-known metric, such as teaspoons, shall additionally be given in brackets. However, if the packaging has an efficient and convenient dosage system that can provide an equally reliable dosage, an alternative metric (eg capfuls, squirts, or other) can be used. - the dosage instructions may be stated for various water hardness and for various levels of soiling <p>All products must display on the container a list of product ingredients that complies with the labelling requirements of Article 11 of Regulation (EC) No 648/2004 and amended by Regulation (EC) No 907/2006.</p> <p>The following or equivalent words should be clearly displayed on the packaging: "<i>all laundry detergents have an effect on the environment. Always use the correct dose for maximum efficiency and minimum environmental impact. Use the lowest recommended temperature</i>". Any proposed changes/alterations to this wording must be submitted to and approved by The Trust.</p> <p>Dilution from the cold tap water shall be recommended.</p> <p>All labelling shall comply with the requirements of the HSNO legislation or the appropriate hazardous substance legislation for the country where the product is sold.</p> <p>The label or accompanying documents must specify that the product is intended for use in commercial and institutional facilities only.</p> <p>No claim or suggestion, on the packaging or by any other means, shall be made that the product has an antimicrobial action.</p>
<p>Good Env Choice AU</p>	<p>Suitable information must be supplied with the product or made available to the public. Information that must be included on the label includes:</p> <ul style="list-style-type: none"> - instructions for correct use including doses or dilution rates for varying levels of soiling if applicable - all hazards associated with the product, its use, storage or disposal - complete ingredients listing, according to Annex VII of Directive 89/542/ECC on labelling of detergents and cleaning products
<p>Green Seal</p>	<p><u>Consumer cleaning products</u></p> <p>The label must include detailed instructions for proper use to maximise performance and minimise waste.</p> <p>When the product is intended to be diluted with water by the consumer prior to use, the label</p>

	<p>shall clearly state and prominently that dilution with water from the cold tap is recommended and shall state the recommended level of dilution in commonly understood measures</p> <p>The label must include proper disposal instructions. If the product is a towelette or other disposable wipe product, the label must clearly indicate proper disposal of the wipes. For the package disposal, the label must include clear recycling instructions</p> <p>If plastic, the packaging must be clearly marked with the appropriate Society of the plastic industry symbol to identify the type of plastic for recycling.</p> <p><u>Industrial and institutional cleaning products</u></p> <p>The manufacturer's label shall state the following</p> <ul style="list-style-type: none"> - clearly and prominently that dilution with water form cold tap is recommended and shall state the recommended level of dilution - explicitly disposal, recycling, reuse and refill instructions, proper and clear instructions fo ruse and appropriate precautions and recommendations for the use of personal protective equipment - declaration if a fragrance has been added or not
EU Ecolabel	<p>Dosage instructions. Information on the recommended dosage of APCs shall appear on the packaging. In the case of a concentrated product, it shall be clearly indicated on the packaging that only a small quantity of the product is needed compared to normal (eg diluted) products.</p> <p>The following text (or equivalent) shall appear on the packaging: <i>"proper dosage saves costs and minimises environmental impacts"</i></p> <p>The following text (or equivalent) shall appear on the packaging of ready-to-use all-purpose cleaners: <i>"the product is not intended for large-scale cleaning"</i></p> <p>The following text (or equivalent) shall appear on the product in text or as pictogram:</p> <p><i>"keep away from children"</i></p> <p><i>"don't mix different cleaners"</i></p> <p><i>"avoid inhaling sprayed product"</i> only for products that are packaged as sprays</p>
<u>Hand dishwasher detergents consumer use (HDD)</u>	
Env. Choice NZ	<p>The HDDs shall be accompanied by instructions for proper use so as to maximise product performance and minimise waste. These instructions shall include information on reuse, recycling and/or correct disposal of packaging.</p> <p>The product must have information on the recommended dosage on the primary packaging. The dosage must be quoted in whole ml for 5 l of dishwashing water.</p> <ul style="list-style-type: none"> - A second well-known metric, such as teaspoons, shall additionally be given in brackets. However, if the packaging has an efficient and convenient dosing system that can provide an equally reliable dosage, an alternative metric (e.g. capfuls, squirts, or other) can be used. - The dosing instructions may be stated for various water harnesses and for various levels of soiling or for various levels of washing up. <p>All HDDs must display on the container a list of product ingredients that complies with the labelling requirements of Article 11 of Regulation (EC) No. 648/2004 of the European Parliament and of the Council of 31 March 2004 on Detergents, as amended by Regulation (EC) No 907/2006 of 20 June 2006.</p> <p>The following or equivalent words should be clearly displayed on the packaging. <i>"All detergents have an effect on the environment. Always use the correct dose for maximum efficiency and minimum environmental impact."</i> Any proposed changes/ alterations to this wording must be submitted to and approved by The Trust.</p> <p>All labelling shall comply with the requirements of HSNO legislation or the appropriate hazardous substance legislation for the country where the product is sold.</p> <p>All packaging shall include a website reference where a copy of the product data sheet can be obtained.</p>
EU Ecolabel	<p>The product shall bear the following information on the packaging:</p> <ul style="list-style-type: none"> - "Do not use running water but immerse the dishes, and use the recommended dosage" (or equivalent text) - Information on the recommended dosage shall appear on the packaging in a reasonably sufficient size and against a visible background. The information shall be provided in millilitres (and tea spoons) of product for 5 litres of dishwashing water suitable for 'dirty' and 'less dirty' dishes

	An indication of the approximate number of washes that the consumer can perform with one bottle is recommended but voluntary.
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7.13.3 Proposed common template

The proposed common template tries to harmonize the different wording and points of information that should be given to the users in order to get the maximum performance of the product at the minimum environmental impact. Two different criteria are proposed: "User information" and "Information appearing on EU Ecolabel".

Criterion "User information"

The detergent shall be accompanied by instructions for proper use so as to maximise product performance and minimise waste. These instructions shall be legible or include graphical representation or icons and include information on:

- dosing instructions for various water hardness and various levels of soiling.
 - a) if applicable, the recommended dilution instructions at a normal level of soiling/normal use in ml/l should be included. A second well-known metric shall, if applicable, be given in brackets. If the packing has an efficient and convenient dosage system that can provide an equally reliable dosage, an alternative metric (eg capfuls, squirts, or other) can be used.
 - c) information on the water hardness or where this information can be found out shall be included or alternatively, the dosing instructions shall refer to the water hardness where the product is intended to be marketed
- recommendation on washing at the lowest temperature: the applicant shall:
 - a) recommend washing at the lowest temperature the product claims effectiveness (or as default temperature 50C for consumer dishwasher detergents and 30C for laundry detergents)
 - b) encourage users to dilute the product with cold tap water (if applicable)
 - c) recommend washing beddings and cloths at 60C if the users suffer from allergies to house dust or infectious diseases.
- water saving measures:
 - a) do not use running water but immerse the dishes (for HDD)
 - b) wash full loads (for laundry and dishwasher detergents)
- reuse, recycling and/or correct disposal packaging
- environmental information:

"All detergents have an effect on the environment. Always use the correct dose for maximum effectiveness, the lowest recommended temperature (and wash full loads). This will minimize both energy and water consumption and reduce water pollution".

The applicant shall take suitable steps to help consumers respect the recommended dosage, making available a dosage device and/or indicating the recommended dosage in a well-known metric.

Assessment and verification The applicant shall provide a sample of the product packaging, including the label.

7.14 Information appearing on the EU Ecolabel

Information on the label is useful for reinforcing messages that endorse the user's or consumer's choice of this product over non-EU Ecolabel alternatives. A number of aspects could be described drawing on elements of the criteria and currently the different EU Ecolabels propose different aspects to be promoted (Table 95).

Table 95: Aspects mentioned in the "Information on EU Ecolabel" criterion

Claim on label	ROC	HDD	APC	LD	IILD	DD	IIDD
Fulfils strict biodegradability requirements	Yes						
Limits packaging waste/ Reduced packaging waste	Yes	Yes	Yes				
Reduced impact on aquatic life		Yes	Yes	Yes	Yes	Yes	Yes
Reduced use of hazardous substances/Limited hazardous substances		Yes	Yes	Yes	Yes	Yes	Yes
Clear user instructions		Yes	Yes				
Performance tested.				Yes	Yes	Yes	Yes

Harmonisation and standardisation of claims

According to Article 8 (3b) of the EU Ecolabel Regulation 66/2010, for each product group, key environmental characteristics (typically three) of the ecolabelled product may be displayed in the optional label with text box. The guidelines for the use of the optional label with text box can be found in the 'Guidelines for the use of the EU Ecolabel logo' on the website: http://ec.europa.eu/environment/ecolabel/documents/logo_guidelines.pdf.

The EU Ecolabel Regulation limits text to factual information regarding the product properties and does not permit statements regarding use. Further, the information may not mislead product users or imply that non-EU Ecolabel products do or may not have the same beneficial properties. For example, the recent revision to the Rinse-Off Cosmetics criteria revealed this principle as stakeholders admitted that such statements would be prohibited under the Cosmetics Regulation, for example. Caution therefore needs to be applied in determining how EU Ecolabel claims are phrased.

As packaging is not considered as one of the most important aspects of an EU Ecolabel product in the detergents group, it is proposed to keep the following three claims for all product groups:

- reduced impact on aquatic ecosystems,
- limited hazardous substances,
- performance tested.

7.14.1 Proposed common template

Criterion "Information appearing on the EU Ecolabel "

The logo should be visible and legible. The use of the EU Ecolabel logo is protected in primary EU law. The EU Ecolabel registration/licence number must appear on the product, it must be legible and clearly visible. The optional label with text box shall contain the following text:

- reduced impact on aquatic ecosystems
- limited hazardous substances
- performance tested

Assessment and verification The applicant shall provide a sample of the product packaging, including the label.

7.15 Sustainable sourcing of palm oil, palm kernel oil and their derivatives

7.15.1 Proposed common template

Proposed addition

Ingredients used in the product which are derived from palm oil or palm kernel oil must be sourced from plantations that meet the criteria for sustainable management that have been developed by multi-stakeholder organisations who have a broad based membership including NGOs, industry and government.

Assessment and verification: the applicant shall provide third-party certifications that the palm oil used in the manufacturing of the product originates from sustainable managed plantations. Certifications accepted shall include RSPO (by identified preserved, segregates or mass balance) or any equivalent scheme based on multi-stakeholder sustainable management criteria. For chemical derivatives of palm oil it is acceptable to demonstrate sustainability for these through book an claim systems such as GreenPalm or equivalent.

7.15.2 Rationale and discussion

Surfactants can either be derived from oleochemical or petrochemical sources, and there are environmental impacts associated to both types¹⁷⁸. The environmental impact of surfactant origin was investigated in the sensitivity analysis conducted as part of the technical analysis presented in the Preliminary Reports (for example in Section 4.7.2 of the APC and HDD reports). This study found that the natural land transformation impact category experienced the greatest change when replacing a surfactant of oleochemical origin with one of petrochemical origin. However, the study also found that the available life cycle data for surfactants was outdated and unreliable.

Palm oil, palm kernel oil and their derivatives are commonly used oleochemical raw materials for the surfactants used in detergent products. They, along with coconut oil, are typically used with petrochemical raw materials to form surfactants of mixed origin, which account for around 50% of the surfactants used in detergents and maintenance products in Europe^{178,179}. Currently the percentages of palm oil and coconut oil used are not known and largely depend on market availability and prices¹⁷⁹.

As surfactants are an essential component of detergents products, understanding the environmental impacts linked to the choice of their origin is important. This is especially true if the EU Ecolabel criteria were to encourage the use of surfactants for one origin over another. Although some of the benefits of moving away from petrochemical-based ingredients may seem obvious, there are ecological, economic and social concerns surrounding their replacements.

Procter & Gamble published a report named 'Natural and Synthetic Surfactants – Which one is better?'¹⁸⁰ The report aims to investigate the pros and cons between surfactants from oleochemical and petrochemical origin.

The study concluded that a total substitution of petrochemical surfactants for oleochemical ones is not recommended for the following reasons:

- It would be more difficult to meet the wide range of consumer needs, such as wash conditions, with oleochemical surfactants alone,
- Surfactants from both origins are comparable in terms of the key environmental indicators (biodegradation, toxicity and removal by sludge treatment),
- Life cycle studies show that replacing petrochemical with oleochemical surfactants does not lead to significant savings in energy consumption or reductions in water or air emissions.

¹⁷⁸ Some facts about 'natural' cleaning products, American Cleaning Institute. Available from: http://www.cleaninginstitute.org/sustainability/some_facts_about_4.aspx

¹⁷⁹ IKW Fact sheet: Facts on the use of palm (kernel) oils in detergents and maintenance products for private households in Germany. March 2013. Available from: http://www.ikw.org/fileadmin/content/downloads/Haushaltspflege/HP_Facts-News-Palmoil.pdf

¹⁸⁰ Natural and synthetic surfactants – which one is better? Procter & Gamble 2012, available from http://www.scienceinthebox.com.de/en_UK/programs/natural_synthetic_en.html

The Nordic Swan Ecolabel considered the possibility of restricting the use of materials from non-renewable origin in its criteria for detergent products. The following was stated¹⁸¹:

- At present, the overall benefit to climate change of switching from non-renewable raw materials to renewable raw materials is unclear,
- An increase in demand for renewable raw materials would lead to an increase in pressure for arable land and may result in deforestation and/or a reduction in food supply,
- Availability of renewable and sustainable raw materials for detergents may be limited and expensive.

The Council for LAB/LAS Environmental Research has reported the following¹⁸².

- LAS manufacture has much lower emissions to air, water and land. The emissions total for LAS manufacture is 184 kg per 1,000 kg of product, for oleochemical surfactants this ranges from 278 kg to over 379 kg.
- Production of natural oils would need to increase by around 4 million tons per year in order to accommodate surfactant demands. This would require a significant increase in land use for surfactant production and, consequently, natural habitat destruction.

From a functional view point, there is no clear advantage to using oleochemical derived surfactants over petrochemical ones – they are not more biodegradable and still require a significant amount of processing. However, as the topic of sustainable palm oil gains momentum, many consumers are expressing interest in this type of materials. Industry has responded with adopting sustainable palm oil sourcing policies, for example Unilever has committed to sourcing all of their palm oil from known and certified sources by 2020.

Stakeholders requested the inclusion of a criterion on sustainable source of renewable raw materials in EU Ecolabels related to detergent products. The technical analysis aspect of the sourcing of oleochemical raw materials, such as palm oil, has shown a significant impact on the overall environmental performance of the product, so measures for encouraging the use of oleochemical raw materials for sustainable sources seem reasonable. At the time of writing of this report, only information was available on certification schemes for palm oil, palm kernel oil and their derivatives, thus the horizontal criterion proposed concerns these substances. For example, since 2004, the Roundtable on Sustainable Palm Oils (RSPO) proposes principles and criteria for certified sustainable palm oil. If further information is gathered showing the existence and the credibility of an equivalent certification scheme for coconut oil, the sustainability requirement can be extended to this type of oil.

Other ecolabelling schemes have requirements on sustainable sourcing of renewable raw materials. A summary of the approaches adopted by other schemes can be found in Table 96.

Table 96: Approaches to renewable materials adopted by various ecolabel schemes

Scheme	Criterion
Nordic labelling	<i>No requirements</i>
Env. Choice NZ	The licence applicant (or holder) must have an effective purchasing policy for all palm oil, palm kernel oil (or derivatives) or raw materials that are manufactured from palm kernel oil (including surfactants) to maximise the use of palm oil and palm kernel oils from sustainable sources. This shall include implementing a preferential purchasing policy that includes the following stepped policy: <ol style="list-style-type: none"> i. Purchasing raw materials from suppliers which contain RSPO-certified sustainable palm oil or palm kernel oil ii. Purchasing raw materials which use palm oil or contain palm kernel oil from suppliers who have policies in place to purchase certified sustainable palm kernel oil or who support sustainable palm oil and palm kernel oil through

¹⁸¹ About Nordic Ecolabelled Laundry detergents and stain removers, Criteria Version 7, Background document 19 February 2014. Available from: http://www.ecolabel.dk/kriteriedokumenter/006e_7_Background_Document.pdf

¹⁸² Oleochemical and petrochemical surfactants, Council for LAB/LAS Environmental Research, available from: <http://www.cler.com/facts/oleochemical.html>

	GreenPalm and to increase the percentage over time; Where suppliers of raw materials who have policies around sustainable palm oil and palm kernel oil are not available, directly purchasing and redeeming GreenPalm certificates for the volume of palm oil and palm kernel oil used within the product.
Good Env. Choice	If palm oil is used as a raw material in surfactant production, the surfactant manufacturer or the palm oil supplier must be a member of the Roundtable on Sustainable Palm Oil (RSPO) or be able to show that the palm oil used to produce the surfactants comes from a plantation that is certified in accordance with RSPO's sustainable cultivation rules.
Good Env. Choice. AUS	<p>Palm oil: A minimum of 20% of palm oil and palm oil derivatives used in the product must be Roundtable on Sustainable Palm Oil (RSPO) certified (identity preserved, segregated or mass balance) or equivalent, with the remainder required to be offset by 'Book and Claim' system such as GreenPalm, or equivalent. Additionally, applicants must commit to increasing the total percentage of RSPO certified palm oil and palm oil derivatives used in products by 10% each year.</p> <p>Exemption: If only chemical derivatives of palm oil are used in the product, it is acceptable to demonstrate sustainability for these through book and claim systems such as GreenPalm in case RSPO certified palm oil derivatives are not available on the market.</p> <p>Palm kernel oil: The applicant/licensee must make a positive contribution to the production of sustainable and responsibly grown palm kernel oil by either::</p> <ul style="list-style-type: none"> • Purchasing, for use in the product, any amount of certified sustainable palm kernel oil (CSPKO) and/or palm kernel oil derivatives that contain or are manufactured using CSPKO; or • Purchasing all palm kernel oil and palm kernel oil derivatives used in the product, from suppliers that are RSPO members; or • Ensuring palm kernel oil used in the product is offset by the supplier or the applicant/licensee using a 'Book and Claim' system such as GreenPalm, or equivalent.
Green Seal	<i>No requirements</i>
EU Ecolabel	<i>No requirements</i>
Revised EU Ecolabel	Ingredients used in the product which are derived from palm oil or palm kernel oil must be sourced from plantations that meet the criteria for sustainable management that have been developed by multi-stakeholder organisations who have a broad based membership including NGOs, industry and government.

7.15.3 Consultation questions

1	Should a criterion on sustainable sourcing of palm oil and palm kernel oil derivatives be included?
2	Is this approach inaccessible for SMEs?

7.16 Appendix

7.16.1 Appendix 1: Template for derogations



EUROPEAN COMMISSION
JOINT RESEARCH CENTRE
Institute for Prospective Technological Studies (Seville)
Sustainable Production & Consumption Unit

EU Ecolabel
Substitution information and Derogation request form

1. Common information requirements

To be treated as confidential?	<input type="checkbox"/> Yes <input type="checkbox"/> No
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Contact name	
Organisation	
Email	
Telephone No.	
Supplementary documents attached	<i>Please list additional evidence provided</i>

1a. Chemical substance name(s)	
1b. CAS, EC or Annex VI numbers	<i>The CAS No shall always be provided</i>
1c. Current EU regulatory status	<i>E.g. notified, on or proposed for the SVHC candidate list, registered, authorised</i>
1d. CLP Classifications from the EU Ecolabel hazard listing	<i>Please specify the source and evidence for the classification(s).</i>
1e. Proportional contribution to final product classification (for mixture ingredients)	<i>This is relevant for mixtures where the CLP rules shall be used to classify the final product mixture.</i>
1f. Existing scientific evidence and risk assessments relating to the substance	<i>E.g. REACH dossiers, ECHA evaluations, peer reviewed scientific research/screening exercises.</i>
1g. Functional need and significance to the final product	<i>What technical function does it provide and why is it needed? The need for the substance to be present in the product shall be detailed based on specific consumer requirements or standards.</i>
1h. Typical concentration in the final product and specific components or articles	<i>This should be indicative include ranges where this varies according to function.</i>

2. Additional information required for derogation requests

2a. The relevance of the hazard classification(s) along the life cycle of the product (e.g. manufacturing, use, disposal)	<i>Where the risks of exposure to the hazard may occur e.g. workforce exposure, wastewater release, consumer exposure. Scientific evidence relating to risks of exposure.</i>
2b. Market availability of alternatives and the potential for substitution	<i>Market availability and technical status of alternatives – why are they currently not suitable? This shall be substantiated with technical evidence</i>

3. Additional information required about substitutes

3a. Comparative evaluation of environmental performance	<i>Identification of substances that can/have been substituted and supporting evidence of the improvement for specific hazards i.e. CLP classifications, reference to scientific research/screening exercises.</i>
3b. The relevance of the hazard substitution along the life cycle of the product (e.g. manufacturing, use, disposal)	<i>Evidence of where the greatest improvement potential along the lifecycle can be detected e.g. through reduced workforce exposure, wastewater release, consumer exposure.</i>
3c. Compliance with product performance and functional requirements	<i>Verifiable evidence that the substitute fulfills the same functional requirements and technical needs e.g. fitness for use test results, specifications</i>
3d. Market diffusion and technical maturity	<i>Evidence of the market availability and technical maturity of substitute(s)</i>