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Revision of six European Ecolabel Criteria for detergents and cleaning products

Technical Report 3.0
Draft criteria proposal for revision of ecological criteria

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Institute for Prospective Technological Studies

Contact information
Renata Kaps
Address: Joint Research Centre, Edificio Expo c/ Inca Garcilaso, 3 E-41092 Seville, Spain
E-mail: JRC-IPTS-DETERGENTS@ec.europa.eu

Tel.: +34 95 4488 385
Fax: +34 95 4488 426

http://susproc.jrc.ec.europa.eu
http://www.jrc.ec.europa.eu/

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List of abbreviations

ACPO	Annual communications of progress	KPO	Kernel palm oil
Amfep	Association of Manufacturers and Formulators of Enzyme Products	LCA	Life cycle analysis
aNBO	Aerobically non-biodegradable	LD	Laundry Detergents
anNBO	Anaerobically non-biodegradable	LDD	Light duty detergent
APC	All-purpose cleaner	MGDA	Methylglycindiacetic acid
ATP	Adaptation to Technical progress	MIT	Methylisothiazolinone
BIT	buthylisothiazolinone	NBO	Non-biodegradable
BPR	Biocidal products regulation	NTA	Nitrolo Triacetic Acid
BDW	Basic degree of whiteness	PA	Polyamide
CAS no	Chemical Abstracts Service	PAA	Peracetic acid
CESIO	European Committee of Organic Surfactants and their Intermediates	PAC	ε -*r*(phthalimido)hexanoic acid
CDV	Critical dilution volume	PAP	ε-phthalimido-peroxy-hexanoic acid
CLP	Classification, labelling and packaging	PC	Sodium percarbonate
CM	Colour maintenance	PES	Polyester
CMIT	Chloromethylisothiazolinone	PES/CO	Polyester/cotton
CSPO	Certified sustainable palm oil	PO	Palm oil
CSD	Colour safe detergent	PVP	Polyvinylrrolidone
CO	Cotton	REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
BIT	Benzoisothiazolinone	RSPO	Roundtable sustainable palm oil
DD	Dishwasher Detergents	RTU	Ready to use
DID-list	Detergent Ingredient Database list	SBL	Soil ballast load
DID-no	Detergent Ingredient Database number	SDS	Safety Datasheet
DTI	Dye transfer inhibition	SI	Silk
GLDA	Glutamic acid, N,N-bis(carboxymethyl)-tetrasodium salt	SR	Stain remover
HDD	Hand Dishwashing Detergents	SVHC	Substance of very high concern
HDD	Heavy duty detergent	TAED	Tetra acetyl ethylene diamine
HSC	Hard-Surface Cleaning Products (previously "all-purpose cleaners and sanitary cleaners")	WO	Wool
IFRA	International Fragrance Association	WWT	Waste water treatment
II	Industrial and institutional		
IIDD	Industrial and Institutional Dishwasher Detergents		
IILD	Industrial and Institutional Laundry Detergents		
IKW	Industrieverband Koerperpflege- und Waschmittel e. V		
KPI	Key Performance Indicator		

1 INTRODUCTION

This combined Technical Report is the final technical report and, at the same time, an update on the progress of the revision of the six EU Ecolabel criteria related to detergents, to be released ahead of the EU Ecolabel Boarding (EUEB) meeting taking place in Brussels on June 22-23, 2016. The simultaneous revision of the six product groups aims to:

- harmonise the criteria sets,
- set ambitious, yet achievable goals,
- focus on the most relevant environmental aspects.

Background information for this document is available on the project website (JRC, EU Ecolabel for Detergents - project website 2016) in the shape of:

- preliminary reports (4 reports, LD and IILD, DD and IIDD, HDD, and HSC),
- 1st Technical Reports (6 reports, one for each product group) complemented by a Technical Annex.
- 2nd Technical Report (6 chapters, one for each product group) complemented by a Technical Annex.

Information included in the above-mentioned reports is summarised in the following sections but they should be consulted for a full understanding of the revision process.

The methodology and sources of information used until this point of the project include: literature review, legal review, market analysis, in-house LCAs, stakeholder questionnaires, 1st and 2nd AHWG meeting discussions, stakeholder comments on 1st and 2nd Technical Reports, EUEB discussions, bilateral meetings of relevance, etc.

How to read this document?

While the six product groups were covered in six separate documents (and a technical annex) released prior to the 1st AHWG meeting, in order to minimise repetition and increase coherency with the document released in the BATIS system for commenting, the working document released for the 2nd AHWG meeting was structured containing the proposed criteria in chapters 2-7 and adding a common technical annex for all of them summarizing the technical information, the comments received from stakeholders and how they impacted on the evolution of the criteria.

The present document is structured similarly to the 2nd AWHG meeting working document, as follows:

- **Section 1** contains a description of the goals of the project, a summary of the information collected up to this point, and links between the prepared documents: preliminary report, 1st and 2nd Technical Reports and this document. The main conclusions of the preliminary reports are included in Section 1.2 as well as the relationship between the proposed criteria and LCA and non-LCA environmental hotspots. Finally, Section 1 ends with a summary of the main proposed changes, for each product group, between the existing EU Ecolabel criteria and the proposals made in this report.
- **Sections 2** covers the wording proposed for sections of the decision text (e.g. name, scope, reference dosage) and the proposed criteria text for the six product groups. As there are many horizontal issues common to the different product groups, each sub-section covers one issue and presents a single box containing the proposed criterion text and threshold values for the six product groups. This allows for an easy comparison across the different product groups and shows the alignment between EU Ecolabel criteria sets. The proposal of the criterion text is followed by the rationale; additional information on each criterion can be found in Section 3.
- **Section 3** presents, for each of the criteria of the six product groups under revision, the tables of stakeholder comments (with the comments received following the 1st

and the 2nd AHWG meeting separated) and, in some cases, the summary of additional research performed to establish the criteria.

The present document does not include an in-depth assessment of the impact of the changes on current and future licence-holders. Due to limitations such as e.g. lack of access for the JRC to the detergent formulations of licence-holders, lack of exact data on market availability, the completion of this section was not possible. In all the criteria, whenever changes are introduced, the possible repercussions on current licence-holders are discussed.

1.1 METHODOLOGY AND SOURCES OF INFORMATION

This document shows the evidence gathered and the process followed to draft revised EU Ecolabel criteria for the six detergent and cleaning product groups. These criteria aim to tackle the main environmental impacts identified through LCA analysis and the non-LCA impacts identified through review of other sources. Each of these impacts is directly or indirectly addressed through one or more criteria (e.g. the choice and amount of surfactants is an environmental impact directly addressed through several EU Ecolabel criteria while the amount of detergent a user uses 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 the energy used to heat the water or an electricity provider with a higher share of renewable energy, this is out of the scope of what can be promoted through a product environmental label. Finally, although waste generation due to packaging is not present among the top key performance indicators (KPIs) for most detergent product groups, it can still have an impact of up to 36% for some environmental aspects. Given the prevalence of detergent and cleaning products 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.

Apart from the LCA analysis and study of non-LCA impacts, a review of other scientific evidences, current national schemes and legislation was performed. These sources of information pointed out the potential presence of substances in detergents that can have environmental and health impacts and these are addressed in accordance with Articles 6.6 and 6.7 of the Regulation (EC) No 66/2010 on the EU Ecolabel (European Commission 2010).

1.2 SUMMARY OF THE PRELIMINARY REPORT, ENVIRONMENTAL HOTSPOTS and LINK TO THE EU ECOLABEL CRITERIA

Main environmental hotspots and summary of links to criteria

Throughout the preliminary reports for the different product groups, similar environmental hotspots were highlighted. Thus, the overall proposed structure and criteria for all six product groups are similar.

Table 1 summarises the links between the identified environmental hotspots of interest to the EU Ecolabel and the revised criteria proposals. The relevance of each identified hotspot is reported in previous Technical Reports and Preliminary Report.

Table 1 Links between the hotspots identified (LCA and non-LCA impacts) and the proposed revised EU Ecolabel criteria (where a criterion is not found in all six product group, the relevant products are listed in parenthesis).

Identified LCA & non-LCA hotspots	Revised or new EU Ecolabel criteria	Comments on the related criteria
Washing temperature	User information	This criterion encourages users to opt for lower water temperatures.
	Fitness for use	This criterion ensures that products are fit to wash or clean at the lowest temperatures for their respective purpose: LD does at <30C, DD does at <50C, HDD does at <45C, IILD/IIDD do in the conditions recommended by the manufacturer and HSC does with water at room temperature
	Information appearing on the EU Ecolabel	This criterion informs consumers that the product's performance has been tested under realistic conditions and even at low temperatures.
Energy sources to heat up the water	--	Out of the scope of this policy tool
Amount of product used per application	User information	This criterion informs users about the amount of product to be used depending on the washing conditions.
	Dosage requirement (LD, DD)	This criterion limits the amount of product that manufacturers can recommend to users.
	Packaging - Design for dosing (LD, DD, HSC, HDD)	This criterion ensures that the packaging is designed to help users correctly dose products.
	Automatic dosing systems (IILD, IIDD)	The criterion ensures that users do not use an incorrect dose when using multi-component systems.
Choice and amount of surfactants	Biodegradability	This criterion ensures that surfactants are biodegradable and will not persist in the environment.
	Restricted substances	This criterion ensures that hazardous surfactants are not included in the bill of materials.
	Phosphorus content	This criterion limits and restricts the types of phosphorus compounds that can be included as ingredients.
	Sustainable palm oil	This criterion ensures that the extraction of palm oil used to produce renewable surfactants does not cause unnecessary strain on the ecosystem.
Emissions to water	Toxicity to aquatic organisms	This criterion ensures that the sum of the ingredients is not toxic to the aquatic organisms.
	Biodegradability	This criterion ensures that ingredients are not persistent in the environment.
	Phosphorus content	This criterion ensures that eutrophication due to phosphorus is limited.
	Restricted substances	This criterion ensures that hazardous substances do not reach water ways.
Waste generation	Packaging	This criterion ensures that a limited amount of waste will be generated and that this waste can be easily recycled.
	User information	This criterion reminds consumers to dispose of the packaging in a responsible manner.
Water consumption	User information	This 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	Hazardous substances and mixtures	This criterion limits the hazardous substances and mixtures that can be included in the product, limiting environmental and health risks.

Identified LCA & non-LCA hotspots	Revised or new EU Ecolabel criteria	Comments on the related criteria
	Ingoing substances listed in accordance with Article 59(1) of Regulation (EC) No 1907/2006	
	Information appearing on the EU Ecolabel	This criterion informs consumers that the product has a limited amount of hazardous substances, in order to encourage its purchase.

Laundry detergents (consumer and I&I)

Due to their multiple overlaps, laundry detergents and industrial and institutional laundry detergents were covered by the same Preliminary Report. The main findings of the Preliminary Report are:

-The *market analysis* revealed that the laundry detergent market in Europe is dominated by a few well-known brands. 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, with an increase in concentrated/compact products, use of plant-based ingredients and minimisation of packaging. IILDs only account for 4% of the retail value of the EU market for laundry detergent products.

- The *legal review* revealed that important changes have been introduced at Member State and European level regarding the production of detergents. The most relevant one is the revision of the EU Detergents Regulation (EC) No 259/2012 (European Commission 2004). This regulation limits the use of phosphorus compounds in consumer laundry detergents but does not cover industrial and institutional laundry detergents.

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

The life cycle stage with the highest contribution to the environmental impact profile of laundry detergents is the use phase, particularly through the energy needed to heat the water for the washing cycle. For some impact categories, the sourcing of raw materials is also important.

Based on the normalisation chosen, the most significant impact categories for laundry detergents in Europe are freshwater eutrophication, human toxicity, freshwater ecotoxicity, marine ecotoxicity, and natural land transformation.

These impacts are strongly correlated to each other via the energy consumption 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 environmental KPIs, i.e. those variables that mainly drive the impacts for laundry detergents in Europe, based on the results of this study, are (not ranked):

- Wash temperature,
- Amount of product used per application,
- Formulation – specifically the choice and amount of surfactants,
- Energy source used to heat the water,
- Emissions to water.

Dishwasher detergents (consumer and I&I)

Due to their multiple overlaps, dishwasher detergents and industrial and institutional dishwasher detergents were covered by the same Preliminary Report. The main findings of the Preliminary Report are:

-The *market analysis* revealed that the dishwasher detergent market is primarily made up of 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), tablets being the popular and accounting for an estimated 83 % of the market shares in Europe, based on sales.

- The *legal review* revealed that important changes have been introduced at Member State and European level regarding the production of detergents. The most relevant one is the revision of the EU Detergents Regulation (EC) No 259/2012 (European Commission 2004). This Regulation indicates that the use of phosphorus compounds will be limited in consumer dishwasher detergents by 2017. This Regulation does not cover industrial and institutional dishwasher detergents.

-The *technical analysis* revealed that the key environmental impacts associated with the two dishwasher detergent product groups are caused during the use phase, particularly through the energy needed to heat the water for the washing cycle. For some impact categories, the sourcing of raw materials is also important.

- Based on the normalisation chosen, the most significant impact categories for dishwasher detergents in Europe are fossil depletion, climate change, human toxicity, particulate matter formation, and natural land transformation. 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 ingredient sourcing.

The KPIs, based on the results of this study, are (not ranked):

- Amount of product used per application,
- Formulation – specifically the choice and amount of surfactants,
- Wash temperature,
- Energy source used to heat the water,
- Emissions to water.

Hand dishwashing detergents

The Preliminary Report presents the research carried out on areas related to the product group covered by the EU Ecolabel on hand dishwashing detergents. 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 new functionalities to the products. The range of hand dishwashing detergent products available includes budget varieties, premium products and products that claim to be environmentally friendly.

- The *technical analysis* found that the key environmental impacts are mainly caused during the use phase, particularly through 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 chosen, by far the most important impact categories for hand dishwashing detergents in Europe are natural land transformation and fossil depletion, with large contributions from ingredient sourcing and the energy needed for the use phase. The results of the LCA for a hand dishwashing detergent conducted as part of the technical

analysis showed that the ingoing substances 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. The manufacturing and disposal phases are also important contributors to the freshwater, terrestrial and marine ecotoxicity impact categories.

The KPIs, based on the results of this study, are (not ranked):

- Amount of product used per application,
- 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).

All-purpose cleaners and sanitary cleaners (and window cleaners)

The Preliminary Report presents the research carried out on areas related to the product groups covered by the current EU Ecolabel on all-purpose cleaners and sanitary cleaners. The report provides background information that underpins to the new revised scope and 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 products 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 hard-surface cleaning products are mainly due to the extraction stage, except for window/glass cleaners where packaging takes the lead. 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 some all-purpose cleaners.

- Based on the normalisation chosen, by far the most important impact category for hard-surface cleaning products in Europe is natural land transformation. The results of the LCA for a general purpose cleaner showed that 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 KPIs based on the results of this study, are (not ranked):

- Amount of product used per application,
- 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).

Energy consumption in the use phase and EU Ecolabel criteria

As hot water is often used during the use phase, energy consumed to heat up it up represents an important part of the overall environmental impacts attributed to detergents. These environmental impacts can be reduced either by choosing a cleaner energy source or by

reducing the overall energy necessary to heat the water, either by reducing the temperature or the amount of water used.

Influencing the choice of the energy source used for water heating is not part of the scope of the EU Ecolabel scheme but it can, to some extent, influence the washing water temperature and the amount of water used during the use phase as described below. Further discussion of this issue can be found in the 1st draft of the Technical Annex (JRC 2014).

All detergents are not equal when it comes to water temperature and amount of water used. Some detergents and cleaners claim that they can be effectively used with cold water while others require high temperatures to fulfil their function. Recent market trends indicate that some products that have been traditionally used at high temperatures (LD) are now being developed to be effective in cold water/low water temperatures and are becoming more popular among users. However, even if there is a trend for producers to develop such products, this does not guarantee that users will use a lower washing temperature.

In terms of amount of water used, modern appliances have been developed to include sensors that adjust their performance to the load, thus saving water and energy. This type of technology is more efficient for washing machines than for dishwashers due to the machine performance itself. User behaviour also still has an impact on the overall energy performance of modern appliances.

Influencing user behaviour is very complex, as the decisions made by users are both conscious and subconscious (i.e. culture, traditions, perceptions, etc. have an influence). An in-depth knowledge of the reasons of why users make the decisions they make and a good understanding of the context of user behaviour are required to design EU Ecolabel requirements that address this issue (JRC 2014). In this revision of the EU Ecolabel criteria sets related to detergents, it is proposed to tackle the question of energy consumption during the use phase through communication and by ensuring that EU Ecolabel products are efficient at low temperatures.

Where appropriate, the criterion *"**Fitness for use**"* is proposed to require that tests are performed at low temperatures (e.g. 30C or lower for LD) and at the lowest temperature recommended by the manufacturer in the case of I&I products. Through such requirements, the EU Ecolabel verify that products are truly effective at low temperatures and contribute to convincing users that they can, indeed, save energy and money by using less hot water.

Furthermore, the criterion **"*User information*"** is proposed to include statements related to water temperature 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 person to consider using cold water for floor cleaning instead of always turning to warm water.

The 1st draft of the Technical Annex (JRC 2014) explains in detail how each EU Ecolabel criteria set under revision is tackling this issue.

1.3 MAIN CHANGES in content and structure

1.3.1 Content changes

For all six product groups, the majority the existing criteria are still relevant and they are proposed to be kept with minor or major corrections, such as updated scopes and adjusted thresholds that better highlight the best performers on the market. Additionally, some criteria

are proposed to be deleted or added or restructured in order to harmonize the different product group criteria.

The following changes are proposed compared to the existing criteria:

- changes in the ***names, scopes*** and ***definitions*** of some of the ***product groups***. For instance the product group called 'All-purpose cleaners and sanitary cleaners' is proposed to be called 'Hard-surface cleaning products' to better reflect all products covered by the scope of this product group, which itself is proposed to be more open.
- changes in the ***names of criteria*** to bring harmonization among the product groups. For example all the criteria on product testing are proposed to be titled "Fitness for use".
- changes in the ***structure/order of the criteria.*** The criteria that deal with chemicals can now be found at the very top of the list followed by the criteria dealing with packaging, fitness for use, and user information.
- changes in the ***criterion on biodegradability***. A harmonised criterion is proposed across all product groups. A restriction of surfactants which are anaerobically non-degradable and harmful to the environment is proposed, along with requirements restricting the content of non-degradable organic compounds.
- changes in the ***criterion on substances***:
  - harmonisation of the lists of specified excluded substances, as well as requirements on fragrances, preservatives, colouring agents and enzymes for all product groups,
  - removal of derogation for surfactants classified with H411 (Toxic to aquatic life with long-lasting effects) for hand dishwashing detergents ,
  - removal of derogation for optical brighteners for laundry detergents,
  - removal of derogation for preservatives,
  - proposed derogation for ε-phthalimido-peroxy-hexanoic acid (PAP) used as bleaching agent in laundry detergents and I&I laundry detergents,
  - harmonised derogation for subtilisin for laundry detergents, I&I laundry detergents, dishwasher detergents, I&I dishwasher detergents and hand dishwashing detergents,
  - proposed derogation for peracetic acid/hydrogen peroxide used as bleaching agent for I&I laundry detergents,
- deletion of the ***points criteria for laundry detergents*** as they did not adequately differentiate between low temperature detergents and others and it is now proposed to test all products at 30C or lower.
- changes in the ***packaging*** criteria to harmonise the requirements between product groups and tackle the issue of design for recyclability.
- proposal of a criterion on ***sustainable sourcing of palm oil, palm kernel oil and their derivatives***.
- rewording of the ***assessment and verification*** procedures. For example, some changes are proposed for the assessment and verification of the criteria on the restriction of chemicals due to e.g. changes in the regulations at European level.
- change in the ***thresholds*** included in some criteria to better reflect the market, as indicated below:

<u>Laundry Detergents</u>

- Dosage requirements – no difference is proposed to be made between liquid and powder detergents, overall lower dosages for all detergent types,
- CDV – no difference is proposed to be made between liquid and powder detergents, lower value for 'Heavy-duty products, colour-safe detergent',

- Biodegradability – lower anNBO value for liquid 'Heavy-duty laundry detergent, colour-safe detergent',
- Packaging – low WUR limits for non-powder products are proposed.
- Restricted substances – lower total P-content

Industrial and institutional laundry detergents

No change of thresholds is proposed.

Dishwasher detergents

- Dosage requirements (proposed to replace requirements on total chemicals) – lower values for 'Single-function dishwasher detergent' and 'Multi-function dishwasher detergent',
- CDV – lower values proposed for the types of single and multi-function detergents and rinse aids,
- Biodegradability – lower value for anNBO of 'Dishwasher detergents'
- Packaging – WUR is proposed to be introduced for the calculation, with new limits proposed for detergents and rinse aids,

Industrial and institutional dishwasher detergents

- CDV – lower values for 'Dishwasher detergents 'and 'Multi-component systems' used with hard water

Hand dishwashing detergents

- CDV – lower values are proposed,
- Biodegradability – new values are proposed for aNBO and anNBO of organic compounds,
- Packaging – lower WUR value.

Hard surface cleaning products

- Reference dosages for RTU products are proposed to be updated,
- CDV – lower value for RTU 'All-purpose cleaners' and 'Sanitary cleaners', new values are proposed for undiluted 'Window cleaners' and 'Sanitary cleaners' as well as 'Kitchen cleaners',
- Biodegradability - new values for aNBO and anNBO of organic compounds,
- Packaging – WUR for undiluted products is increased, new value is proposed for 'RTU products sold in bottles with trigger sprays', the requirement on the refillability of spray bottles is proposed to be updated.

Finally, multiple clarifications and modifications in the criteria wording have been added/introduced. These changes are mainly based on the stakeholder feedback and the further research carried out during the revision process. Examples of these changes are the introduction of revised Regulations, updated standards or new requirements in the packaging and fitness for use criteria.

1.3.2 Criteria structure

The structure of the current EU Ecolabel criteria for the detergents product groups is schematically presented in Table 2. Criteria that cover similar issues are highlighted in identical colours, including where two or more existing criteria are proposed be merged into a single one (i.e. fragrances are proposed to be included under the general criterion related to

restricted substances). One of the goals of the simultaneous revision of all the criteria sets is their harmonisation – the proposal for the criteria structure can be found in Table 3.

Table 2. Current structure of the current EU Ecolabel criteria for the detergents product groups

Criterion	LD	IILD	DD	IIDD	HSC / APC	HDD
1	Dosage requirement	Dosage information*	Total chemicals	Toxicity to aquatic organisms	Toxicity to aquatic organisms	Toxicity to aquatic organisms
2	Toxicity to aquatic organisms	Toxicity to aquatic organisms	Restricted substances	Biodegradability	Biodegradability	Biodegradability
3	Biodegradability	Biodegradability	Toxicity to aquatic organisms	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	

* the criterion does not set a maximum dosage limit but is rather similar to the "reference dosage" found in most of other criteria (in the "assessment and verification" section).

Table 3. Proposed structure of the revised EU Ecolabel criteria for the detergents product groups

Criterion	LD	IILD	DD	IIDD	HSC / APC	HDD
1	Dosage requirement	Toxicity to aquatic organisms	Dosage requirement	Toxicity to aquatic organisms	Toxicity to aquatic organisms	Toxicity to aquatic organisms
2	Toxicity to aquatic organisms	Biodegradability	Toxicity to aquatic organisms	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.
4	Sustainable sourcing of palm oil, etc.	Restricted substances	Sustainable sourcing of palm oil, etc.	Restricted substances	Restricted substances	Restricted substances
5	Restricted substances	Packaging	Restricted substances	Packaging	Packaging	Packaging
6	Packaging	Fitness for use	Packaging	Fitness for use	Fitness for use	Fitness for use
7	Fitness for use	Automatic dosing systems	Fitness for use	Automatic dosing systems	User information	User information
8	User information	User information	User information	User information	Information on EU Ecolabel	Information on EU Ecolabel
9	Information on EU Ecolabel	Information on EU Ecolabel	Information on EU Ecolabel	Information on EU Ecolabel		

2 CRITERIA PROPOSAL

2.1 Product group names

Proposal for the name	
LD	Laundry detergents
IILD	Industrial and institutional laundry detergents
DD	Dishwasher detergents
IIDD	Industrial and institutional dishwasher detergents
HSC	Hard surface cleaning products
HDD	Hand dishwashing detergents

Rationale of proposed product group names

The EU Ecolabel product group names should be both as easily comprehensible and as concise as possible, and in line with the terms used in the Detergents Regulation, where possible.

2.1.1 *Consumer detergent products*

The current EU Ecolabel criteria for detergent products aimed at the general public have the generic names "Laundry Detergents" and "Detergents for Dishwashers" and it is proposed keep them, with the slight change to "Dishwasher Detergents" for the latter to make it more concise.

As the Detergents Regulation (European Commission 2004) contains definitions for similar product groups with the titles "Consumer laundry detergents" and "Consumer dishwasher detergents", a proposal was made to align the EU Ecolabel product group names with those found in the Regulation. During consultation with stakeholders, it was pointed out that this might lead to confusion as currently multiple products aimed at small businesses equipped with household or semi-professional (household-like) washing machines or dishwashers are awarded the EU Ecolabel for Laundry Detergents/Detergents for Dishwashers. These products are used in a professional setting (e.g. small school, hair dresser, laundrette) but they differ greatly from I&I products (see below).

2.1.2 *Detergent products for industrial and institutional (I&I) applications*

The names of the I&I product groups are in alignment with the definition found in the Detergents Regulation and the terms "Industrial and Institutional" are known to professionals in the sectors concerned. Although it was suggested during stakeholder consultation that the terms might be unfamiliar to the general public and that the major trade body was shifting to using the term "Professional", it is proposed to keep the current product group names in order to clearly differentiate them from consumer products and products aimed at professionals who use household or semi-professional washing machines (see explanation above).

2.1.3 *Industrial and Institutional dishwasher detergents*

The current product group name includes the word "automatic" and it is proposed to be removed in order to make the title more concise and because the fact that the products covered should only be used by automatic dishwashers is implicit.

2.1.4 *Hard-surface cleaning products*

The name of the product group currently known as "All-purpose cleaners and sanitary cleaners" is proposed to be changed to "Hard-Surface Cleaning Products" in order to better reflect the scope – the current name fails to mention window cleaners. While "Cleaning Products" could be a shorter alternative and it is currently used for similar product groups in other ecolabelling schemes (e.g. Nordic Swan and Green Seal), it is very generic and could cover multiple types of products that do not fall under the proposed product group scope. The addition of the terms "hard surface" helps reduce this perceived scope by implicitly excluding products such as carpet cleaners from the scope. Some stakeholders also proposed to include "routine" in the title as the scope is technically limited to routine products, but in an effort to keep the name as short as possible while still informative, the term is not proposed to be included.

2.2 Product group scopes (Article 1)

Proposal for the scope	
LD	The product group 'Laundry Detergents' shall comprise any laundry detergent or pre-treatment stain remover falling under the scope of Regulation (EC) No 648/2004 of the European Parliament and of the Council on detergents which is marketed and designed to be used for the washing of textiles principally in household machines, but not excluding its use in public 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 fabric softeners, 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.
IILD	The product group 'Industrial and Institutional Laundry Detergents' shall comprise any laundry detergent falling under the scope of Regulation (EC) No 648/2004 of the European Parliament and of the Council on detergents which is marketed and designed to be used by specialised personnel in industrial and institutional facilities. Included in this product group are multi-component systems constituted of more than one component used to build up a complete detergent or a laundering program for an automatic dosing system. Multi-component systems may incorporate a number of products such as fabric softeners, stain removers and rinsing agents, and they shall be tested as a whole. This product group shall not comprise products which induce textile attributes such as water-repellency, waterproofness or fire retardancy. Furthermore, the 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. Laundry products to be used in household washing machines are excluded from the scope of this product group.

DD	The product group 'Dishwasher Detergents' shall comprise any detergent for dishwashers or rinse aid falling under the scope of Regulation (EC) No 648/2004 of the European Parliament and of the Council on detergents which is marketed and designed to be used exclusively in household dishwashers and in automatic dishwashers for professional use, the size and usage of which is similar to that of household dishwashers.
IIDD	The product group 'Industrial and Institutional Dishwasher Detergents' shall comprise any dishwasher detergent, rinse or pre-soak falling under the scope of Regulation (EC) No 648/2004 of the European Parliament and of the Council on detergents which is marketed and designed to be used by specialised personnel in professional dishwashers. Included in this product group are multi-component systems constituted of more than one component used to build up a complete detergent. Multi-component systems may incorporate a number of products such as pre-soaks and rinsing agents, and they shall be tested as a whole. This product group shall not comprise dishwasher detergents designed for household dishwashers, 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.
HSC	The product group 'Hard Surface Cleaning Products' shall comprise any all-purpose cleaner, kitchen cleaner, window cleaner or sanitary cleaner falling under the scope of Regulation (EC) No 648/2004 of the European Parliament and of the Council on detergents which is marketed and designed to be used as described below. a) All-purpose cleaners shall include detergent products intended for the routine indoor cleaning of hard surfaces such as walls, floors and other fixed surfaces. b) Kitchen cleaners shall include detergent products intended for the routine cleaning and degreasing of kitchen surfaces such as countertops, stovetops, kitchen sinks and kitchen appliance surfaces. c) Window cleaners shall include detergent products intended for the routine cleaning of windows, glass and other highly polished surfaces. d) Sanitary cleaners shall include detergents products intended for the routine removal, including by scouring, of dirt and/or deposits in sanitary facilities, such as laundry rooms, toilets, bathrooms and showers. The product group shall cover products for both private and professional 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.
HDD	The product group 'Hand Dishwashing Detergents' shall comprise any detergent falling under the scope of Regulation (EC) No 648/2004 of the European Parliament and of the Council on detergents which is marketed and designed to be used to wash by hand items such as glassware, crockery and kitchen utensils including cutlery, pots, pans and ovenware. The product group shall comprise products for both private and professional use. The products shall be a mixture of chemical substances and shall not contain micro-organisms that have been deliberately added by the manufacturer.

Rationale of proposed scopes

The scopes of five out of the six product groups (LD, IILD, DD, IIDD and HDD) are proposed to remain largely identical to the ones found in the current criteria. Indeed, market analysis showed that the current scopes cover all relevant products on the market (Section 3 of the respective Preliminary Reports), and stakeholder consultation and the review of other ecolabels and voluntary agreements did not raise further issues (Sections 2.3 and 2.5 of the respective Preliminary Reports). For the sixth product group, Hard-surface Cleaning Products, the scope is proposed to be extended as described in Section 2.2.4.

For all product groups, the wording of the different scopes has been harmonised (e.g. consistent use of "household" instead of "domestic") and each scope now explicitly mentions the Detergents Regulation, which sets out general requirements for such things as labels on products and states what types of products are and are not considered "detergents".

2.2.1 *Laundry Detergents*

The wording is proposed to be simplified by removing the indication that a laundry detergent falls under the scope "whether [it is] in powder, liquid or any other form" as this is implicit and the differentiation among the different detergents is not done on form but rather on use throughout the criteria.

As in the current product group scope, fabric softeners are not proposed to be included but they are now explicitly stated to be excluded. For a full rationale on fabric softeners, see Section 3.2.2.

2.2.2 *Dishwasher Detergents*

As for laundry detergents, the wording is proposed to be simplified with the removal of "whether in powder, liquid or any other form" due to this already being implicit. Moreover, the wording now also refers to "household" machines instead of "domestic", which is an alignment with the wording used in other product groups.

2.2.3 *Industrial and Institutional (Laundry and Dishwasher) Detergents*

The scopes of the two product groups are proposed to remain identical but a clarification is proposed as to what constitutes a multi-component system through the inclusion of examples. Moreover, competent bodies stated that a specification should be added stating that multi-component systems are to be tested (and pass the criteria) as a whole in order to avoid possible misinterpretation of criteria.

During stakeholder consultation, a suggestion was made to differentiate between household and I&I products by other means than the intended use of the products ("products that are intended to be used in household machines") and the end users ("products for machines that must be used by specialised personnel"). With regard to this aspect, the criteria currently in place and the proposed criteria are in alignment with the differentiation made in the Detergents Regulation but they differ from what can be found in other ecolabelling schemes (e.g. Nordic Swan) where the differentiation is made based on the length of washing cycles.

Neither system is perfect as there might be some overlap with products that can be used in all types of machines and semi-professional machines that propose cycle times that do not clearly fall in either household or I&I categories. For the sake of simplicity and to align with the Detergents Regulation, the EU Ecolabel is proposed to continue differentiating between the two types of products based on the machines used and the type of personnel operating the machines – those that are household or household-like and those that are meant to be used in an industrial and institutional setting by specialised personnel.

2.2.4 *Hard-surface cleaning products*

The scope of the product group previously known as "all-purpose cleaners and sanitary cleaners" is proposed to be amended and expanded in several ways.

- ***Kitchen cleaners:*** In the current scope, kitchen cleaners are listed under the category of sanitary cleaners and are considered as such in the different criteria. After the 1st AHWG meeting, feedback was received that their formulations are closer to those of all-purpose cleaners than sanitary cleaners and therefore they should be moved to the former category. To verify this claim, research was conducted to determine the similarities and differences in the formulations for the three types of cleaners by looking at the main ingredients found in products in catalogues (Table 4).

Table 4: Formulation comparison for leading brand all-purpose cleaners, kitchen cleaners and sanitary cleaners

Product	Main ingoing substances
All-purpose cleaner	Water, surfactants, water softener, anti-oxidants, fragrances
Kitchen cleaner	Water, surfactants, solvents, fragrances
Sanitary cleaner	Water, scale remover, surfactants, water softener, thickener, fragrances

Based on this research, it can be seen that all-purpose cleaners and kitchen cleaners primarily contain cleaning agents (surfactants) whereas sanitary cleaners focus more on scale removal and often also have thicker formulations. Nevertheless, kitchen cleaners tend to contain a higher amount of surfactants and other substances that help dislodge grease from surfaces. As such, rather than fitting these types of products into the existing sub-categories, it is proposed to create a specific one for them and, where data allows, create new specific requirements.

- ***Products for outdoor use:*** In the current scope text, only all-purpose cleaners intended for indoor use are allowed to be awarded an EU Ecolabel and no indication is given for window and sanitary cleaners. It is proposed to keep the same wording, as sanitary and kitchen cleaners only have indoor applications (implicitly restricting their use) and the background information gathered (e.g. LCA studies) and the criteria developed for all-purpose cleaners are based on typical indoor use and products intended for outdoor use might have different formulations (e.g. more elevated VOC levels). Any of the products awarded with the EU Ecolabel can still be used outdoors by consumers but their primary use should be for indoor applications. In the case of window cleaners, their use typically covers both sides of a window, therefore restricting such products to primary indoor use is not feasible.

- ***Undiluted products:*** As more and more undiluted products appear on the market, it is proposed to extend the scope to all types of undiluted products and not just all-purpose cleaners as is the case in the current scope text. These types of products help limit transport and packaging costs and associated environmental impacts and are mostly of interest to professional users.

- ***Excluded products:*** Stakeholders proposed that certain single ingredient products should be included in the scope. Examples quoted included spirit vinegar and rubbing alcohol. The issue was raised at EUEB meetings and it was generally agreed that the current criteria cannot make a difference between two single ingredient products that only differ through their manufacturing stages. Indeed, the criteria focus on the final product formulation and not on how the substances making up the product were manufactured. Accordingly, the requirement for products to be mixtures of chemicals is not proposed to be removed from the product group scope.

During consultation there was also a call to explicitly mention in the scope that wipes and that urinal blocks (which have no detergency action) cannot be awarded an EU Ecolabel licence. Currently, wipes and products that do not help the cleaning process are already implicitly excluded as they do not fall under the Detergents Regulation and, in order not to complicate the text related to the scope, it is proposed to cover these products and any other products of that nature in the User Manual.

2.2.5 Hand dishwashing detergents

A slight alteration is proposed to the scope to facilitate comprehension of what types of items can be washed by a detergent falling within the scope of the product group, as the phrase "and so on" was considered too vague by stakeholders. A more expanded list of examples of the types of items that can potentially be washed and that were mentioned during the revision process (e.g. baby bottles) is proposed to be added to the User Manual.

The restriction on the intentional addition of micro-organisms is kept in this proposal based on potential safety concerns (see Section 3.10.10). At the moment of writing, no hand dishwashing products containing micro-organisms could be found on the market. To the best of our knowledge health hazards associated with unintentionally contaminating food with the micro-organisms in the products have not been studied in depth.

2.3 Definitions (Article 2)

Proposal for the definitions	
For the purpose of this decision, the following definitions shall apply:	
LD	(1) "ingoing substances" means substances intentionally added, by-products and impurities from raw materials in the final product formulation (including water-soluble foil, if applicable); (2) "heavy-duty detergents" means detergents used for ordinary washing of white textiles at any temperature; (3) "colour-safe detergents" means detergents used for ordinary washing of coloured textiles at any temperature; (4) "light-duty detergents" means detergents intended for delicate fabrics; (5) "primary packaging" means - for single doses in a wrapper that is intended to be removed before use: the individual dose wrapping 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, including label where applicable;
IILD	(1) "ingoing substances" means substances intentionally added, by-products and impurities from raw materials in the final product formulation (including water-soluble foil, if applicable); (2) "primary packaging" means - for single doses in a wrapper that is intended to be removed before use: the individual dose wrapping 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, including label where applicable;

DD	(1) "ingoing substances" means substances intentionally added, by-products and impurities from raw materials in the final product formulation (including water-soluble foil, if applicable); (2) "primary packaging" means - for single doses in a wrapper that is intended to be removed before use: the individual dose wrapping 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, including label where applicable;
IIDD	(1) "ingoing substances" means substances intentionally added, by-products and impurities from raw materials in the final product formulation (including water-soluble foil, if applicable); (2) "primary packaging" means - for single doses in a wrapper that is intended to be removed before use: the individual dose wrapping 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, including label where applicable;
HSC	(1) "ingoing substances" means substances intentionally added, by-products and impurities from raw materials in the final product formulation (including water-soluble foil, if applicable); (2) "undiluted product" means a product that should be 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 - for single doses in a wrapper that is intended to be removed before use: the individual dose wrapping 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, including label where applicable;
HDD	(1) "ingoing substances" means substances intentionally added, by-products and impurities from raw materials in the final product formulation (including water-soluble foil, if applicable); (2) "primary packaging" means - for single doses in a wrapper that is intended to be removed before use: the individual dose wrapping 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, including label where applicable;

Rationale of proposed definitions

In the current versions of the EU Ecolabels related to detergents, there is little harmonisation between product groups as to how and where term definitions are listed. In the present proposal, the definitions are proposed to be listed in Article 2 of the EU Ecolabel text. Some of the definitions proposed are specific to a single product group (e.g. definitions of different laundry detergent types) while others have been developed to be common to all six product groups in order simplify and clarify the reading of the EU Ecolabels. Overall, the proposed text

does not contain major content changes compared to the current EU Ecolabel criteria as most of these definitions were already present, although often in sections such as "Measurement Thresholds" (e.g. in the EU Ecolabel for Industrial and Institutional Laundry Detergents) or in single criteria text themselves.

Ingoing substances: The term "ingoing substances" is proposed to be used throughout the criteria documents in order to clarify what should be considered in every criterion; the proposed definition is complemented by the "Measurement threshold" section. No mention is made of "mixtures" in the definition as, following stakeholder feedback, the applicant and/or the applicant's suppliers should have access to formulations down to the substance. A special mention is made of products that contain a water-soluble foil – the foil is considered as part of the product as it has the same potential to contribute to e.g. aquatic toxicity as the product itself.

Packaging: For packaging, the new trend of providing single doses (to be diluted or not) for all types of products is considered in the proposed definition. Single dose packaging is already common on many markets for laundry and dishwasher detergents but they are also appearing on the market for undiluted hard-surface cleaning products – single doses are provided to the users along with a recipient in which to dilute them.

Light-duty detergents (Laundry detergents): An update is proposed to the term "light-duty detergents" following feedback from stakeholders. The term used by the industry is "light-duty detergents" and not "low-duty detergents".

Undiluted/Ready-to-use/Concentrated (Hard-surface cleaning products): During the early stages of the revision work, it became apparent that a distinction must be made between products that should be diluted before use and products that should be used without dilution but in smaller quantities compared to their "traditional" counterparts because they contain a higher percentage of active substances. The first type of product is proposed to be referred to as "undiluted" and the latter as "concentrated". While the current EU Ecolabel criteria sets do not refer to "concentrated" products (but those are, to an extent, favoured by some criteria), the definitions are important for discussion purposes.

Thus, the following guidelines for the use of the two terms are followed in the rest of the text:

- "concentrated" shall only refer to products that are claimed to be "concentrated" 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 detergent dose should be lower than the dose of a regular laundry detergent). Currently no criteria exist or are proposed that would differentiate between normal and concentrated products.
- "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).

2.4 Assessment and verification

Proposal for the assessment and verification
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, these may originate from the applicant and/or their supplier(s), as appropriate. Competent bodies shall preferentially recognise attestations which are issued by bodies accredited according to the relevant harmonised standard for testing and calibration laboratories and verifications by bodies that are accredited according to the relevant harmonised standard for bodies certifying products, processes and services. Accreditation must be carried out according to the provisions of the Regulation 765/2008[1] of the European Parliament and of the Council. 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. As pre-requisite, the product shall meet all applicable legal requirements of the country or countries in which the product is intended to be placed on the market. The applicant shall declare the product's compliance with this requirement. The "Detergent Ingredient Database" list (DID list), available on the EU Ecolabel website, contains the most widely used ingoing substances 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 following information shall be provided to the competent body: The list of all ingoing substances indicating trade name (if existing), chemical name, CAS no., DID no., the ingoing quantity, the function and the form present in the final product formulation at or above the following concentrations: - preservatives, fragrances and colouring agents - regardless of concentration, - other ingoing substances - 0,010% weight by weight. All ingoing substances present in the form of nanomaterials shall be clearly indicated in the list with the word 'nano' written in brackets. For each ingoing substance listed, the safety data sheet (SDS) in accordance with Regulation (EC) No 1907/2006[2] of the European Parliament and of the Council shall be provided. Where an SDS is not available for a single substance because it is part of mixture, the applicant shall provide the SDS of the mixture.

[1] Regulation (EC) No 765/2008 of the European Parliament and of the Council of 9 July 2008 setting out the requirements for accreditation and market surveillance relating to the marketing of products and repealing Regulation (EEC) No 339/93 (OJ L 218 13.8.2008 p.30)

[2] 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) (OJ L 396, 30.12.2006, p. 1)

B) Measurement thresholds

Compliance with the ecological criteria is required for all ingoing substances as specified in Table 5.

Table 5 Threshold levels applicable to ingoing substances by criterion (weight by weight)

Criterion name		Surfactants	Preserva-tives	Colouring agents	Fragrances	Other (e.g. enzymes)
Toxicity to aquatic organisms		≥ 0,010	no limit*	no limit*	no limit*	≥ 0,010
Biodegradability	Surfactants	≥ 0,010	N/A	N/A	N/A	N/A
	Organics	≥ 0,010	no limit*	no limit*	no limit*	≥ 0,010
Sustainable sourcing of PO, KPO and their derivatives		≥ 0,010	N/A	N/A	N/A	≥ 0,010
Excluded or limited substances	Specified excluded and limited subst.	no limit*	no limit*	no limit*	no limit*	no limit*
	Hazardous substances	≥0,010	≥0,010	≥0,010	≥0,010	≥0,010
	SVHCs	no limit*	no limit*	no limit*	no limit*	no limit*
	Fragrances	N/A	N/A	N/A	no limit*	N/A
	Preservatives	N/A	no limit*	N/A	N/A	N/A
	Colouring agents	N/A	N/A	no limit*	N/A	N/A
	Enzymes	N/A	N/A	N/A	N/A	no limit*

* "no limit" means: regardless of the concentration, all substances intentionally added, by-products and impurities from raw materials

HSC	**C) Single lot containing a product both in RTU and undiluted forms** If a product can be found both in RTU and undiluted form and both forms are sold as part of a single lot (e.g. one bottle of RTU product and a refill bottle of undiluted product), both types of products shall meet the requirements set out in all the criteria for their respective types, with the exception of Criterion 5 on Packaging, where the entire lot shall meet the requirements for undiluted products.

Rationale of proposed definitions

Due to the schedule of the original criteria development processes and previous revisions, different approaches were taken to deal with measurement thresholds and the assessment and verification of criteria. These different approaches are summarised in Table 6 of the 1st draft of the Technical Annexe (JRC 2014). The present work proposes a single harmonised text to be used for all six product groups, divided into two sections - assessment and verification requirements and measurement thresholds.

2.4.1 Measurement thresholds

Measurement thresholds indicate the concentration of ingoing substances in the final product for which documentation of compliance is required. As detergents end up in wastewater after use and not all the substances are always totally 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,

- 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 as potentially leading to confusion. These two thresholds are below the REACH (0,1%) and CLP (1%) thresholds but the EU Ecolabel scheme aims to promote the highest environmental standards and, as such, has adopted the approach of imposing stricter requirements for products based on formulations.

The proposed EU Ecolabel criteria for the six detergent product groups align with the current versions but include a harmonised text. First, they require applicants to provide Competent bodies with the full list (indicating trade name, chemical name, CAS number, DID number, the ingoing quantity, the function and the form of all ingredients) of:

- intentionally added preservatives, fragrances and colouring agents, no matter their concentration in the final formulation (below or above 0,010%),
- other intentionally added substances, including by-products and impurities from raw materials, when they are present in concentrations above 0,010% in the final formulation.

Second, for individual criteria requirement compliance, the same thresholds apply with two exceptions.

The first exception is for part b) of the criteria on excluded or limited substances – it was agreed during the revision of the EU Ecolabel on Rinse-off Cosmetics that the requirements shall be met for all ingredients for which concentration exceeds 100 ppm (0,010%).

The second exception is for parts a) and c) of the criteria on excluded or limited substances. During stakeholder consultation, it was highlighted that these parts of the criteria were interpreted differently depending on the Competent Body in charge of an applicant's dossier. Some interpreted part a) to mean that if a substance was below the threshold to be considered an ingoing substance (i.e. below 0,010% for any substances other than fragrances, colouring agents or preservatives), it was still allowed even though it was on the excluded list. Others interpreted it to mean that if a substance was on the excluded list, it could not be present in the product even if it was below the threshold to be considered an ingoing substance. As the substances listed on the excluded list have significant environmental impacts, it is proposed to consider that the second interpretation is correct and the criteria text is proposed to be updated accordingly.

With regard to part c), the Articles 6(6) and 6(7) of EU Ecolabel Regulation apply.

Furthermore, as multiple stakeholders expressed confusion on the threshold levels for the different criteria, it is proposed to include an explanatory table in each criteria set showcasing the limits (Table 5).

2.4.2 Testing requirements

In the EU Ecolabel Regulation (EC) No 66/2010, it is stated in Article 9 (7) that:

> *''Competent bodies shall preferentially recognise tests which are accredited according to ISO 17025 and verifications performed by bodies which are accredited under the EN 45011 standard or an equivalent international standard. Competent bodies shall collaborate in order to ensure the effective and consistent implementation of the assessment and verification procedures, notably through the working group referred to in Article 13''*

The EU Ecolabel Regulation (EC) No 66/2010 indicates that competent bodies shall preferentially recognise verifications performed by bodies which are accredited under the EN 45011. As this standard is nowadays phased-out and replaced by ISO 17065, certification

bodies are no longer accredited in accordance with requirements of the EN 45011 and therefore a new statement has been included in the text.

2.4.3 Single lot containing RTU and undiluted products

In order to facilitate the assessment and verification of lots that contain both RTU and undiluted products (e.g. one bottle of RTU product and a refill bottle of undiluted product), a text considering that case is proposed to be added in the "*assessment and verification*" section for the EU Ecolabel for Hard-surface Cleaning Products. As all the criteria list requirements for both RTU and undiluted products, they should all be met by the respective products, with one exception – packaging. Indeed, the calculation of WUR should be made for the whole lot and cannot be done separately for RTU and undiluted products as for other criteria. Thus, it is proposed that if a lot contains undiluted products, even only in part, then the threshold set out for undiluted products should be met.

2.5 Reference dosage

<table>
<tr><th colspan="2">Proposal for the reference dosage</th></tr>
<tr><td colspan="2">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/washing ability:</td></tr>
<tr><td>LD</td><td>
<table>
<tr><td>Heavy-duty detergent, colour-safe detergent</td><td>Dosage recommended by the manufacturer 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 4,5 kg at a water hardness of 2,5 mmol $CaCO_3$/l</td></tr>
<tr><td>Light-duty detergent</td><td>Dosage recommended by the manufacturer for one kilogram of normally soiled delicate dry laundry (indicated in g/kg laundry or ml/kg laundry) calculated on the basis of the dosage recommended for a load of 2,5 kg at a water hardness of 2,5 mmol $CaCO_3$/l</td></tr>
<tr><td>Stain remover (pre-treatment only)</td><td>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 4,5 kg</td></tr>
</table>
If the recommended dosage is stated for other wash load sizes than the above, the reference dosage used for calculation of the criteria must, however, correspond to the average load size. If the water hardness of 2,5 mmol $CaCO_3$/l is not relevant in the Member States in which the detergent is marketed, the applicant shall specify the dosage used as the reference.
</td></tr>
</table>

<table>
<tr><td>IILD</td><td>Highest dosage recommended by the manufacturer to wash one kilogram of dry laundry (indicated in g/kg laundry or ml/kg laundry) for three degrees of soiling (light, medium and heavy) and water hardness (soft, medium, hard).

All products in a multi-component system must be included with the worst case dosage when assessments of the criteria are made.

Examples of degree of soiling:
<table><tr><th>Soiling</th><th>Degree of soiling</th></tr><tr><td>Light</td><td>Hotel: bed-linen, bedclothes and towels, etc. (towels may be considered heavily soiled)
Cloth hand towel rolls</td></tr><tr><td>Medium</td><td>Work clothes: institutions/retail/service, etc.
Restaurants: tablecloths, napkins, etc.
Mops and mats</td></tr><tr><td>Heavy</td><td>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.</td></tr></table></td></tr>
<tr><td>DD</td><td><table><tr><td>Dishwasher detergent</td><td>Highest dosage recommended by the manufacturer to wash 12 normally soiled place settings under standard conditions ("wash"), as laid down in EN 50242 (indicated in g/wash or ml/wash).</td></tr><tr><td>Rinse aid</td><td>3 ml</td></tr></table></td></tr>
<tr><td>IIDD</td><td>Highest dosage recommended by the manufacturer to produce 1 litre of washing solution (indicated in g/l washing solution or ml/l washing solution) for three degrees of water hardness (soft, medium, hard).</td></tr>
<tr><td>HSC</td><td><table><tr><td>Ready-to-use (RTU) products</td><td>1 litre of RTU product</td></tr><tr><td>Undiluted products</td><td>Highest dosage recommended by the manufacturer for preparing 1 litre of cleaning solution for cleaning normally soiled surfaces (indicated in g/l cleaning solution or ml/l cleaning solution).</td></tr></table></td></tr>
<tr><td>HDD</td><td>Highest dosage recommended by the manufacturer for 1 litre of washing water for cleaning normally soiled dishes (indicated in g/l washing water or ml/l washing water).</td></tr>
<tr><td colspan="2">Assessment and verification:

The applicant shall provide the product label or user instruction sheet that includes the dosing instructions.</td></tr>
</table>

Rationale of proposed 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 6). Moreover, the "functional unit" specified in several of the EU Ecolabel texts does not actually refer to a functional unit but rather to the measurement unit (e.g. 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). Some of the requirements also state their own reference dosage that does not correspond to the one in the section on functional unit/reference dosage (e.g. for LD, Criterion 1 references both "g/kg wash" and "ml/kg wash" when it is stated that the functional unit is only "g/kg wash").

Table 6 Summary of texts related to functional unit and reference dosage

	Functional unit	Reference dosage

LD	g/kg wash (grams per kilo wash)	Quantity recommended by the manufacturer necessary for: - 4,5kg load (heavy duty detergent) - 2,5kg load (low duty detergent)
IILD	g/kg laundry (grams per kilo laundry)	(nothing explicit)
DD	Quantity of product required to wash 12 place settings with a standard soil	Quantity necessary for normally soiled dishes and 12 place settings
IIDD	g/l washing solution (grams per litre washing solution)	(nothing explicit)
HSC	(nothing explicit)	Quantity necessary for 1l of washing water (undiluted products) or 100g (ready-to-use products).
HDD	(nothing explicit)	Quantity necessary for 1l of washing water for normally soiled dishes.

For all the criteria, it is proposed to remove the mention of a functional unit and create a specific section for the "*reference dosage*", where it does not already exist, and state that it is to be used for all calculations. In each case, the text on "*reference dosage*" refers to the quantity recommended by the manufacturer for a specific application described in the EU Ecolabel text.

2.5.1 Laundry detergents

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 and it is proposed to state it explicitly in the same section.

Moreover, stakeholder feedback highlighted the need for a conversion table between mmol $CaCO_3$/l and another commonly used unit of water hardness, German degrees. A note has been made to add such a table to the User Manual (see Section 3.6 for more on water hardness).

2.5.2 Dishwasher detergents

The reference dosage is proposed to remain the same for dishwasher detergents. For rinse-aids, the current criteria text state the reference dosage for rinse aids where it is required in each criterion (e.g. total chemicals, CDV, aNBO, anNBO). It is proposed to indicate it alongside the reference dosage for dishwasher detergents in the main reference dosage section.

2.5.3 Hard-surface cleaning products

Following comments from stakeholders that the requirements for RTU and undiluted products are not easily compared because of the different reference dosages, it is proposed to consider the amount of product necessary to obtain 1 litre of in-use cleaning solution for both as the reference dosage. As their name indicates, RTU are ready to be used so 1 litre of in-use cleaning solution corresponds to 1 litre of RTU product. For undiluted products, the product manufacturer must provide the highest recommended dosage of product needed in order to obtain 1 litre of cleaning solution for normally soiled surfaces. The main change compared to the current reference dosage is that 1 litre of RTU product is considered instead of 100ml, meaning that all the values in the current criteria text for RTU products dependent on the reference dosage should be multiplied by 10 in order to be compared with the ones proposed in the present report.

Some stakeholders mentioned whether the proposed approach of considering a set amount of RTU products and undiluted products provides realistic results, as depending on the product

and application, the real dosages will be very different. It is exactly because of this great variability that no reference is made to the dosage recommended by the manufacturer for specific applications – indeed it is not possible to identify a limited number of applications for which the recommended dosage should be stated. For example, for all-purpose cleaners, the application could be the cleaning of $1m^2$ of normally soiled floor or a shelf, the two require different amounts of product. The same goes for sanitary cleaners, should one application be considered to be the cleaning of tiles or of a toilet? Due to this high disparity, the existing approach is proposed to be maintained.

A wording change is proposed from "*washing water*" to "*cleaning solution*" as it is more representative of what is the final result after dilution for many products, especially professional-grade – a product that is similar to a ready-to-use product.

2.6 CRITERION: Dosage requirements

Proposal for the criterion on dosage requirements

The reference dosage shall not exceed the following amounts:

LD

Product type	Dosage
Heavy-duty detergent, colour-safe detergent	16,0 g/kg laundry
Light-duty detergent	16,0 g/kg laundry
Stain remover (pre-treatment only)	2,7 g/kg laundry

DD

Product type	Dosage
Single-function dishwasher detergent	19,0 g/wash
Multi-function dishwasher detergent	21,0 g/wash

Rinse aids are exempted from this requirement.

Assessment and verification:

The applicant shall provide the product label that includes the dosing instructions and documentation showing the density (g/ml) of liquid and gel products.

Rationale of proposed Criterion

Correct dosing is essential for detergent products as:

- overdosing can lead to increased ecotoxicity impacts and more raw materials used,
- underdosing can lead to the user having to rewash, potentially using extra energy and extra doses of product.

The EU Ecolabels for detergents mainly tackle the issue of dosing through the products' labels and the criteria on User Information but, while end users are largely responsible for using the correct dosing, it should not be forgotten that manufacturers can also have an influence. Indeed, some products can be more concentrated, leading to lower dosages and more doses in a single packaging, leading to lower transportation impacts, etc.

Indications for maximum dosages that can be recommended by manufacturers are indicated in the criteria for two product groups – laundry detergents and dishwasher detergents. As applications vary greatly for I&I products (e.g. the dosage for washing glasses in a bar is different than that used for dishes in a cafeteria), no indications are proposed to be given as to the maximum dosage that can be recommended. The same is true for hard-surface cleaning products; their applications are very diverse, even when dividing products into subcategories such as "all-purpose cleaners" or "sanitary cleaners". For hand dishwashing detergents, applications are not varied but user habits are, as explained in Section 2.6.3.

2.6.1 Laundry detergents

- ***Dosage thresholds:*** A review of dosages for laundry detergent products (both those that have been awarded an EU Ecolabel licence and some that have not) found that most products met the current dosage requirements (42 out of the 45 products surveyed). The investigation also revealed that, in general, light-duty detergents have similar dosages (per ml or g/kg laundry) to heavy-duty detergents, it is only the total amount of product that should be put in the machine that differs significantly as the average load for heavy-duty products is considered to be 4,5 kg and only 2,5 kg for light-duty detergents (note: the density of the products was not considered in this study), as show in

Table 7:Dosage ranges for laundry detergents

	No.	Dosage (ml or g/kg laundry)			Current limit (ml or g/kg laundry)	Proposed limit (g/kg laundry)
		Min	Max	Average		
Heavy-duty liquid	19	4,66	17,00	10,13	17,0	16,0*
Heavy-duty powder	21	10,00	22,22	15,13	17,0	16,0
Light-duty liquid	5	12,06	20,00	16,23	17,0	16,0
NB: Comprehensive data for stain removers not available * due to the density of most liquid laundry products, 16g of liquid laundry detergent corresponds to less than 16ml.						

The limits proposed would allow 80% of the products surveyed to meet the requirements set out in this criterion. Although 80% might seem like a high number, this criterion is one of many and it is the convergence of all the criteria that should highlight the 10-20% top best environmental performance on the market that are the target of the EU Ecolabel.

The proposed thresholds are also coherent with those used in other ecolabel schemes (Table 8), albeit slightly higher than those used by Good Environmental Choice Australia. It should be noted that the EU Ecolabel thresholds are for medium water hardness and not soft water as in many other schemes.

Table 8 Dosage requirements for other ecolabelling and voluntary schemes

Scheme	Liquid detergents	Powder detergents	Light-duty
AISE Charter for sustainable cleaning	17,0 ml/kg laundry	17,0 g/kg laundry	
Nordic Swan	14,0 ml/kg laundry For soft water	14,0 g/kg laundry For soft water	14,0 g/kg laundry For soft water
Good Env. Choice Australia	11,0 ml/kg laundry For soft water	9,0 g/kg laundry For soft water	

***- Alignment between thresholds for liquid and powder detergents*:** During consultation with stakeholders, the question of the density of products was brought up. Not all liquid products have the same density but they should, nevertheless, be evaluated on the same grounds. As product density is easily obtained, and often indicated on Safety Data Sheets, it is proposed to establish a single threshold indicated in "g/kg laundry". Although during the survey of products on the market, it was found that the dosage for liquid products (in ml/kg laundry) tended to be lower than for powder products (in g/kg laundry), the same threshold is proposed for both types of products (as generally liquid products have densities higher than 1).

2.6.2 Dishwasher detergents

- Dosage thresholds: 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 criterion on the toxicity to aquatic organisms as well as in the one of their biodegradability. It is proposed to change the aim of the criterion from specifically targeting total chemicals to targeting the concentration of products, as in the EU Ecolabel for laundry detergents. This change would allow the EU Ecolabel criteria to push for more concentrated products, thus influencing the products' transport and raw material extraction impacts.

As such, the name of the criterion is proposed to be changed to "Dosage requirements" and the requirements are proposed to consider the whole reference dosage instead of only the dry content. The limits proposed are slightly higher than those found in Nordic Swan, although it should not be forgotten that the Nordic Swan criteria are set for soft water and the EU Ecolabel criteria are set for medium hardness water. 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 17 g. Liquid and gels tend to have a slightly higher dosage, with most of the ones that have been awarded an EU Ecolabel coming in at around 20-20,5 g/wash.

- ***Rinse aids***: During stakeholder consultation, some stakeholders proposed to set a dosage requirement for rinse aids as it was claimed that users should be easily able to set a rinse aid dosage on the machines. Further investigation of automatic dishwashers was undertaken to explore the issue. Dishwashers generally either contain:

- a compartment that is manually filled by the user with the required rinse aid amount for each dishwasher load. In this scenario, the user needs to establish the right amount depending on water hardness and it is reported to be done by trial and error and may be assisted by higher viscosity products that prevent overdosing. This type of set up appears to be used in a minority of modern consumer dishwashers.
- a rinse-aid reservoir that is periodically filled with product allowing injections of a small amount of rinse aid over multiple wash cycles. This amount is pre-programmed into the machine and is indicated with 1 through 6, with 3 or 4 usually being as the default. The actual volume corresponding to each setting is not known and may vary among different machine manufacturers, but it is generally believed that the numbers correspond to millilitres. For example in Indesit machines (Indesit n.d.), the dosage can be adjusted manually to cope with water conditions and the majority of devices examined appear to operate in this mode (e.g. the factory default setting for Miele machines is 3 ml). Rinse aid manufacturers also tend to use a standard dose of 3 ml on their labels (e.g. Fairy rinse aids for dishwashers).

Thus, while it is possible to adjust rinse aid dosage, in most cases it is still highly dependent on washing machine manufacturers, water hardness and user preferences, with 3 ml appearing to be the standard dose dispensed by a majority of machines and considered as standard by product manufacturers. Thus, it is not proposed to set a maximum dosage requirement, but rather continue to use the industry standard of 3 ml.

2.6.3 Hand dishwashing detergents

During consultation, a stakeholder suggested that a requirement should be set indicating the maximum dosage that manufacturers can recommend for hand dishwashing detergents. Further research conducted on the issue showed that in realistic settings the amount of product used for hand dishwashing highly depends on the person. Stamminger et al. (2007) found that the average amount of product used by Europeans is 3,2 g for one place setting but the manner in which these 3,2 g were used greatly varied – some people fill the sink with

soapy water and then rinse, others keep the water flowing and put the product on a sponge, others still dilute the product in a small amount of water in a recipient next to the sink where they dip the sponge from time to time.

AISE recommends the use of 5 ml for 5 litres of washing water (or "per job", with a "job" being the washing of four place settings) (AISE 2014). Nordic Swan also has a maximum dosage requirement of 1 g/l of washing water (using soft water, meaning the amount would be higher for water of medium hardness), although it is unknown how the requirement was set. Both these amounts are significantly below what has been observed as used in real situations (3,2 g x 4 = 12,8 g >> 5 ml even if the product's density is high), suggesting that if producers attempted to meet a requirement on maximum indicated dosage, they might indicate dosages that are much lower than what is actually used by users, just in order to satisfy this first basic requirement and this would skew the results for most other criteria.

In light of these findings, it is currently proposed to refrain from setting a maximum dosage requirement for the EU Ecolabel for hand dishwashing detergents but rather favour a smaller recommended dosage amount through criteria such as packaging and CDV.

2.7 CRITERION: Toxicity to aquatic organisms

Proposal for the criterion on the toxicity to aquatic organisms

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

LD

Product type	**Limit $CDV_{chronic}$**
Heavy-duty detergent, colour-safe detergent	31 500
Light-duty detergent	20 000
Stain remover (pre-treatment only)	3 500

IILD

Soft water (<1,5 mmol $CaCO_3$/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 mmol $CaCO_3$/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

DD

Product type	Limit $CDV_{chronic}$
Single-function dishwasher detergents	20 000
Multi-function dishwasher detergents	24 000
Rinse aid	7 500

IIDD

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	7 000
Multi-component systems	3 000	4 000	5 000
Rinse aids	3 000	3 000	3 000

HSC

Product type	Limit $CDV_{chronic}$
All-purpose cleaners, RTU	300 000
All-purpose cleaners, undiluted	18 000
Kitchen cleaners, RTU	700 000
Kitchen cleaners, undiluted	45 000
Window cleaners, RTU	48 000
Window cleaners, undiluted	4 800
Sanitary cleaners, RTU	700 000
Sanitary cleaners, undiluted	45 000

HDD

Product type	Limit $CDV_{chronic}$
Hand dishwashing detergents	2 500

Assessment and verification:

The applicant shall provide the calculation of the $CDV_{chronic}$ of the product. A spreadsheet for calculating of the $CDV_{chronic}$ value, as well as the DID list Parts A and B, is available on the EU Ecolabel website.

The $CDV_{chronic}$ is calculated for all ingoing substances (i) in the product using the following equation:

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

Where:

dosage(i): weight (g) of the substance i in the reference dose

DF(i): degradation factor for the substance i

$TF_{chronic}$ (i): chronic toxicity factor for the substance i

The values of DF(i) and $TF_{chronic}$ (i) shall be as given in the DID list Part A. If an ingoing substance 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 and attaching the associated documentation.

IILD

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

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 of proposed Criterion

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 Ecolabel criteria include requirements that aim to curb the amount of emissions coming from EU Ecolabel

products. Critical Dilution Volume (CDV) is proposed, for the moment, to be kept as the toxicity to aquatic organisms assessment method even though the use of another ecotoxicity assessment method (USEtox) was suggested during stakeholder consultation. Indeed, following the first results obtained using USEtox in the scope of PEF pilots, the application of USEtox on a large scale is not considered feasible. The method could, nevertheless, be potentially used in future revisions of the EU Ecolabel criteria.

Please consult Section 8 of the 1st draft of the Technical Annexe (JRC 2014) for a discussion of the different methods considered for the assessment of toxicity to aquatic organisms in the scope of this revision.

2.7.1 General impact of the change to the 2014 DID list

The main issue related to CDV highlighted by stakeholders is the impact of the switch from the 2007 DID list to the 2014 DID list on the thresholds in the EU Ecolabel criteria. The final report for the "Revision of the harmonised Detergent Ingredient Database" (Gleerup Ovesen, Eskeland and Axelsson 2014), published along with the 2014 DID list, points out the following differences between the two lists:

- the 2014 DID list contains entries for some 40 extra substances,
- chronic data was added for 30 substances resulting for many of them in lower safety factors,
- a new degradation factor was added for very toxic substances that degrade extremely rapidly,
- other updates and corrections.

All these changes should result in generally lower CDV values and most recalculation efforts have shown this to be true, with the exception of some hard-surface cleaning products. While the number of updates to the DID list is quite important, only a limited number of these were observed to have a strong impact on CDV calculations (e.g. DID entries 2123, 2202, 2401, 2411, 2583, 2585) and cause changes in CDV values of more than +/-200%.

Overall, three main types of data were studied during this revision process – CDV values of detergents currently available on the market (although largely skewed towards ecolabelled products because this type of data is more readily available to competent bodies, testing institutes and industry), stakeholder input and updates to the DID list (that might cause CDV values to be different). As the JRC does not have access to the formulations of EU Ecolabel products, all the data contained in this report were provided by stakeholders.

2.7.2 Laundry detergents

Consultation with stakeholders showed that opinions vary on the thresholds that should be set for CDV for laundry detergents. Many called for lower values due to the fact that currently all products that have been awarded an EU Ecolabel easily pass this criterion and the change to the 2014 DID list will most likely cause many CDV values to go down. Others argued that lowering CDV thresholds would force manufacturers to produce products that are less efficient. As the JRC does not have direct access to the exact formulation of products and no substantiating data was provided to back up the latter claim, it is not considered that a sensible decrease in thresholds would cause issues for product performance as it is more likely that products would just need to be reformulated with fewer or other additives (e.g. colouring agents, fragrances).

As the 2014 DID list came into force in late 2014, so far there is only limited data available on the real impact on CDV values. One stakeholder provided a comparison between the CDV values calculated with the 2007 and 2014 DID lists for five laundry detergents. For all products, a decrease in CDV values was observed, ranging from 10% to over 50%, with an

average of 31% (although the average may not be of significant importance due to the fact that only five values were available). Most of the changes observed came from two DID list entry updates.

Due to the limited CDV data calculated based on the 2014 DID list, the new proposed thresholds also take into account general trends based on the 2007 DID list and the evolution of product formulations. A total of 28 CDV values (2007 DID list) for laundry detergents were received from stakeholders (all for products were from the heavy-duty category and have been awarded the EU Ecolabel); no information was received on stain removers. For both powder and liquid products, all received values were below the current CDV threshold, with liquid products having significantly higher CDV values than powder products (Table 9). Further research highlighted that liquid detergents contain more surfactants per dose than powder detergents and, as surfactants significantly contribute to the CDV, it follows that liquid detergents will have higher CDV values than powder detergents. Nevertheless, due to the relatively small sample size and as no other criterion differentiates the two, it is proposed for a single threshold to cover both liquid and powder detergents.

Table 9 CDV ranges for heavy-duty laundry detergents

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

No data were available for light-duty products but market analysis did not highlight any significant changes in the light-duty detergents market.

Overall, the lowering of the CDV threshold values, at least for heavy-duty products, is substantiated – a 10% decrease from 35 000 to 31 500 l/kg laundry would result in most products currently awarded with the EU Ecolabel to be under the threshold while pushing the worst performers towards alternative surfactants and using fewer additives. This is true for calculations made with the 2007 DID list as well as the 2014 DID list

2.7.3 Industrial and institutional laundry detergents

For this product group the CDV thresholds are set for different levels of water hardness, different degrees of soiling, and different product types (liquid/powder/multi-function). As outlined in the Reference Dosage (Section 2.5), this product group covers a wide range of potential washing applications, including hotel bed linen, restaurant table cloths and sheets used in hospitals. Overall the stains encountered are often tougher than on domestic laundry, the wash cycles used shorter, the temperatures much higher and the installations are mainly found in urban areas that are connected to water treatment plants. Thus, when compared to consumer laundry detergents, the CDV thresholds for the IILD product group are overall less strict.

As for all product groups, the change from the 2007 to the 2014 DID list should have consequences on CDV values but in the case of I&I laundry detergents no information was found or provided by stakeholders on the full effect of the change. In other product groups the main trend is that CDV values are lower with the most updated DID list.

For calculations made with the 2007 DID list, CDV values for only four different products were provided by stakeholders (Table 10). The values are significantly lower than the current limits for all water hardness levels but the lack of data does not allow the revision of the thresholds. It is proposed to keep the same thresholds for this revision and update them in the next revision if more data becomes available. For the next update, it has also been proposed to simplify the criterion with the consideration of only one water hardness level.

Table 10 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)

See Section 3.6 for a discussion on water hardness units.

2.7.4 Dishwasher detergents

No information was found or provided by stakeholders on the full effect of the change from the 2007 to the 2014 DID list. Nevertheless, a stakeholder pointed out that the toxicity factor (TF, found in the denominator of the equation used for calculating the CDV) for silicates has decreased (from 0,250 to 0,207) and this will have an impact on the CDV values (increase) for most dishwasher detergents.

For calculations made with the 2007 DID list, a total of 22 CDV values were received from stakeholders (Table 11), including 3 values for rinse aids. All the products have applied to be awarded the EU Ecolabel for detergents for dishwashers or other similar ecolabels.

Table 11 CDV ranges for dishwasher detergent product types (rounded to the closest 100)

	No	CDV (l/wash)		
		Min	Max	Average
Single-function dishwasher detergents	8	6 500	24 700	16 300
Multi-function dishwasher detergents	11	12 800	27 400	19 400
Rinse aid	3	4 530	5 800	5 300

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 and the information on the TF for silicates in the 2014 DID list, it is proposed to only slightly lower (20%) the CDV thresholds for dishwasher detergents in order to lower potential environmental impacts without imposing too many restrictions on existing formulations. For rinse aids, as a stakeholder pointed out, the data set is extremely limited and there are too few data points to make a meaningful evaluation; yet the three data points are very clustered and are significantly below the current 10 000 limit. As during consultation, no objections were raised, it is proposed to lower the CDV threshold 7 500 as it is a realistic value given how easily it appears compliance can be achieved.

2.7.5 Industrial and institutional dishwasher detergents

For this product group the CDV thresholds are set for different levels of water hardness and for different product types. As there are many different types of machines and many types of applications, the reference dosage is in g or ml/l of washing water, which is different from

consumer dishwashers – this makes it difficult to compare CDV thresholds for the two product groups.

As for all product groups, the change from the 2007 to the 2014 DID list should have consequences on CDV values but in the case of I&I dishwasher detergents no information was found or provided by stakeholders on the full effect of the change. For other product groups, the main trend is that CDV values are lower with the most updated DID list.

For calculations made with the 2007 DID list, CDV values for only two different products were provided by stakeholders (Table 12). The values are significantly lower than the current limits for all water hardness levels but the lack of data does not allow the revision of the thresholds even though some stakeholders recommended that the CDV values should be lowered due to the update from the 2007 to 2014 DID list. It is nevertheless proposed to make one update to the CDV thresholds for IIDDs – for dishwasher detergents and multi-component systems in hard water. Indeed, currently the thresholds for these types of products are extremely highly permissive compared to the thresholds for soft and medium water and favour overdosing when softening the water would be preferable.

Table 12 CDV data gathered for IIDDs

	CDV		
	Soft	**Medium**	**Hard**
IIDD 1	770	2 100	3 300
IIDD 2	2 300	2 300	2 900

See Section 3.6 for a discussion on water hardness units.

2.7.6 Hard-surface cleaning products

Multiple stakeholders highlighted that, for some criteria, undiluted products were often at a disadvantage compared to RTU products because the thresholds are set so that undiluted products must have extremely high dilution rates in order to be able to pass the requirements. In the case of CDV thresholds, the current minimum dilution rate required is of 1:30 for undiluted products to be subject to the same requirements as RTU products. While this dilution ratio is not extreme, new minimum dilution requirements are proposed in this revision as the scope of the product group has changed to allow undiluted window, kitchen and sanitary cleaners to be awarded an EU Ecolabel.

- Impacts of 2014 DID list: For hard-surface cleaners, one stakeholder provided data comparing CDV values calculated based on both the 2007 and 2014 DID lists for multiple products. Unlike for other product groups no noticeable trend could be observed as some values went up and some went down.

Out of the 27 undiluted all-purpose cleaners considered:

- 9 saw their CDV values decrease by around 50% (mainly due to changes in factor values for a single substance),
- 2 products had their CDV values increase by over 60% (also due to changes in factor values for a single substance),
- the rest of the CDV values changed by relatively insignificant amounts.

The same trend can be observed for the other types of products included in the scope of the product group, except for toilet cleaners where the CDV values only generally either stayed the same or went down. Most noticeably, for window cleaners, one product saw its CDV value increase by over 250% while the rest of the window cleaners' CDV values decreased by small amounts.

Other stakeholders also provided a number of data points for changes in CDV values – one reported no changes for RTU toilet cleaners, another reported that there was a decrease of

over 300% for one of their products while another stated that there was such an increase in CDV value for a product (due to a single substance) that they will most likely have to reformulate it.

In conclusion, it still unclear what the main trends are but it should be noted that even with the increased CDV values most, if not all, of the current EU Ecolabel products would meet the current CDV thresholds. Thus, it is worthwhile looking into whether these should be tightened. As more data is available calculated with the 2007 DID list, the following discussions are mainly done based on them.

- Revision of thresholds: A total of 240 CDV values (based on the 2007 DID list) for hard-surface cleaning products were received – all for products that have applied to be awarded the current *EU Ecolabel for all-purpose cleaners and sanitary cleaners* or other similar ecolabels (Table 13). These have been split into four different groups as they exist in the current EU Ecolabel criteria. No reliable data on CDV values were found for the two extra types of undiluted products proposed to be included in the EU Ecolabel (undiluted window and sanitary cleaners).

In the rest of the discussion, it should be noted that in the current *EU Ecolabel for all-purpose cleaners and sanitary cleaners*, the thresholds are expressed for reference dosages that are proposed to be changed in this revision. Thus, for RTU products, the current thresholds must be multiplied by 10 in order to be compared to the new proposals. For undiluted all-purpose cleaners, the reference dosage is the same so the current thresholds and the new proposal can be compared 1 to 1.

Table 13 CDV ranges identified for different product types (rounded to the closest 100)

	No.	**CDV**			**Current Limit**
		Min	**Max**	**Average**	
All-purpose purpose cleaners *(RTU)*	4	5 600	50 500	29 200	52 000
All-purpose cleaners *(undiluted)*	120	1 300	18 000*	10 100	18 000
Window cleaners *(RTU)*	40	1 000	4 800	4 000	4 800
Sanitary cleaners *(RTU)*	71	1 000	79 500	53 400	80 000

*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

When comparing to other ecolabelling schemes that use CDV for aquatic toxicity, it was found that Nordic Swan generally had lower values for undiluted products (but calculated for soft water) while NF Environnement had much higher values.

The following updates are proposed for the CDV thresholds:

- All-purpose cleaners: with the new reference dosage, the current threshold for RTU products is of 520 000 and many products easily pass it. For undiluted products, the current threshold requirement is also easily passed for many products although there is great variance in the CDV values. In terms of formulations, RTU products are often aimed at the general public and contain fragrances that are associated with "cleanliness" and which manufacturers can use to differentiate themselves from competitors. Undiluted all-purpose cleaners are more aimed at professional users who use a lot of product and tend to be less scented. Based on this, the following thresholds are proposed:
  - → 300 000 l for RTU all-purpose cleaners (ref dosage: 1l) in order to favour products that contain fewer additives (e.g. fragrances)
  - → 18 000 l for undiluted all-purpose cleaners (ref dosage: 1l washing water) as it is unclear how the switch to the 2014 DID list will impact these products.
- Kitchen cleaners: as currently kitchen cleaners fall under "sanitary cleaners", it was not always possible to separate the data related to them from the rest of the

sanitary cleaners. The few data points that were obtained showed that the current CDV values for kitchen cleaners vary from 160 000 to 600 000 (2014 DID list), which puts them closer to sanitary cleaners than all-purpose cleaners for this criterion. Thus, for this revision, it is proposed to align the CDV values for the two product types.

- Window cleaners: no change is proposed to the threshold for RTU products as it is already quite demanding. A 1:10 ratio is proposed to calculate the threshold for undiluted products as no information was received on the actual CDV values that can be expected for undiluted window cleaners.
- Sanitary cleaners: it is proposed to lower the threshold for RTU products as it has been pointed out that even some undiluted products are able to pass it and some manufacturers use any extra CDV allowance to add extra fragrances. This latter point can be easily spotted with a high number of products that have CDV values abnormally close to the threshold. Moreover, the data on how the switch to the 2014 DID list affects sanitary cleaners shows that their CDV values tend to stay the same or dramatically go down. All this calls for lower CDV thresholds and the following are proposed:
  - → 600 000 l for RTU sanitary cleaners (ref dosage: 1l) in order to favour products that contain fewer additives (e.g. fragrances)
  - → 45 000 l for undiluted sanitary cleaners (ref dosage: 1l washing water) as many undiluted products can pass the current requirement for RTU products (e.g. 100g of undiluted product can pass a threshold of 80 000 l and the dilution rate is often much higher than 1:10, so less than 100 g [usually 10 g or so] of product will have to pass the 45 000 l threshold).

2.7.7 Hand dishwashing detergents

For hand dishwashing detergents, CDV data calculated with the 2014 DID list was provided by one stakeholder. When comparing results obtained with the 2007 and 2014 DID list, there was an average decrease of 53% in values (see Table 14), largely due to the formulations using DID entry 2202, for which the factors were updated.

Table 14 Comparison of CDV calculations for HDDs (the same formulations were used, rounded to the closest 100)

	No.	CDV		
		Min	Max	Average
HDD - With 2014 DID list	16	500	1 500	1 000
HDD - With 2007 DID list	16	1 100	3 600	2 500

More data (56 formulations) was also gathered for the 2007 DID list, as shown in Table 15.

Table 15 CDV ranges identified for traditional and concentrated hand dishwashing detergents (rounded to the closest 100)

	No.	CDV		
		Min	Max	Average
HDD - With 2007 DID list	56	500	3 900	2 400

This shows that the current CDV threshold is much higher than the average CDV for hand dishwashing detergents and it is all the more likely to be so if calculated with the 2014 DID list. Thus it is proposed to lower the CDV threshold value by a third to 2 500.

2.8 CRITERION: Biodegradability

Proposal for the criterion on biodegradability

(a) Biodegradability of surfactants

All surfactants shall be readily degradable (aerobically).

All surfactants classified as hazardous to the aquatic environment according to Regulation (EC) No 1272/2008[3] shall be in addition anaerobically biodegradable.

(b) Biodegradability of organic compounds

The content of organic compounds 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:

LD

Product type	**aNBO** (g/kg laundry) powder/powder tablets	**aNBO** (g/kg laundry) liquid/capsules/gel
Heavy-duty laundry detergent, colour-safe detergent	1,00	0,55
Light-duty detergent	0,55	0,30
Stain remover (pre-treatment only)	0,10	0,10

Product type	**anNBO** (g/kg laundry) powder/powder tablets	**anNBO** (g/kg laundry) liquid/capsules/gel
Heavy-duty laundry detergent, colour-safe detergent	1,30	0,60
Light-duty detergent	0,55	0,30
Stain remover (pre-treatment only)	0,10	0,10

[3] 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, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (OJ L 353, 31.12.2008, p. 1–1355)

IILD

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 mmol $CaCO_3$/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 CaCO3/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 mmol $CaCO_3$/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

DD

Product type	**aNBO** (g/wash)	**anNBO** (g/wash)
Dishwasher detergents	1,00	3,00
Rinse aids	0,15	0,50

IIDD

aNBO (g/l washing solution)

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	0,40	0,40	0,40
Dishwasher detergents/ Multi-component system	0,40	0,40	0,40
Rinse aids	0,04	0,04	0,04

anNBO (g/l washing solution)

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	0,40	0,40	0,40
Dishwasher detergents/ Multi-component system	0,60	1,00	1,00
Rinse aids	0,04	0,04	0,04

HSC

Product type	aNBO	anNBO
	(g/l RTU product)	
All-purpose purpose cleaners *(RTU)*	3,00	55,0
Sanitary cleaners *(RTU)*	5,00	35,0
Kitchen cleaners (RTU)	5,00	35,0
Window cleaners *(RTU)*	2,00	20,00
	(g/l cleaning solution)	
All-purpose cleaners *(undiluted)*	0,20	0,50
Sanitary cleaners *(undiluted)*	0,20	0,50
Kitchen cleaners (undiluted)	0,20	0,50
Window cleaners *(undiluted)*	0,20	0,50

HDD

Product type	aNBO	anNBO
	(g/dosage recommended by the manufacturer for 1 litre of dishwashing water)	
Hand dishwashing detergents	0,03	0,08

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 calculating aNBO and anNBO values is available on the EU Ecolabel website.

For both the degradability of surfactants and the aNBO and anNBO values for organic compounds, reference shall be made to the most updated DID list.

For ingoing substances 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 and anaerobically biodegradable shall be provided, as described in the Appendix 1 available on the EU Ecolabel website.

In the absence of documentation in accordance with the above requirements, an ingoing 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 %);
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 of proposed Criterion

The technical analysis conducted showed that the choice of ingredients and related impacts, particularly on the aquatic environment, are of high importance for detergent products as

they are discharged to the aquatic environment after use (ideally after going through a wastewater treatment plant). Chemicals that degrade rapidly are quickly removed from the environment, while substances present in the aquatic environment that do not degrade quickly have the potential to exert toxicity. In order to limit this potential toxicity, ecolabelling schemes set requirements regarding the degradability of ingredients.

Split views were expressed by stakeholders along the criteria revision process regarding the relevance of the requirement on anaerobic biodegradability, the verification methods, and the availability of data in the DID list. Further information and discussions on this topic can be found in the 1st (JRC 2014) and 2nd Technical Reports (JRC 2015).

The final criteria proposal found in the present report is a compromise solution that is based on the three different approaches used to address biodegradability in the currently valid criteria. It requires that all surfactants are readily (aerobically) degradable and, in addition, that the surfactants classified as hazardous to the aquatic environment are also anaerobically biodegradable. Last but not least, the total amount of organic compounds that are non-biodegradable is also restricted with product-specific threshold values. The respective thresholds proposed are presented in below tables for each product group and are based on the information provided by the current licence holders and EU Ecolabel competent bodies. A more detailed analysis of the data provided is included in the 2nd Technical Report (JRC 2015).

2.8.1 Laundry detergents

In total, information for 27 powder products (all heavy-duty detergents), 41 liquid products (37 heavy-duty detergents, 4 light-duty detergents) and 2 stain removers was provided (see Table 16 and Table 17 for ranges).

Table 16. aNBO ranges for laundry detergents

	aNBO (g/kg laundry)			Current limit (g/kg laundry)	Proposed limit (g/kg laundry)
	Min	Max	Average		
Powder, heavy-duty	0,19	1,03	0,59	1,00	1,00
Liquid, heavy-duty	0,00	0,55	0,16	0,55	0,55
Note: Comprehensive data for light-duty and stain removers not available					

Table 17. anNBO ranges for laundry detergents

	aNBO (g/kg laundry)			Current limit (g/kg laundry)	Proposed limit (g/kg laundry)
	Min	Max	Average		
Powder, heavy-duty	0,22	1,29	0,78	1,30	1,30
Liquid, heavy-duty	0,00	0,56	0,19	0,70	0,60
Note: Comprehensive data for light-duty and stain removers not available					

Based on the analysis of the information provided, it is proposed to keep the current values for powder and liquid heavy-duty detergents, with the exception of anNBO value for liquid products, which is proposed to be lowered to 0,60 g/kg laundry, as the current value appears to be too high. In the case of powder, heavy-duty products eight out of 27 products were close to the current threshold for aNBO. For anNBO values between 1 and 1,3 g/kg was reached by 11 out of 27 products.

For stain removers and light-duty products insufficient information was provided to evaluate and revise the current limits. No information was also received suggesting that the current levels are too strict, thus it is proposed to keep them at the current level.

2.8.2 Industrial and institutional laundry detergents

IILD is, along with IIDD, the most recent product group in the basket of EU Ecolabels for detergent and cleaning products. So far, there have only been very few applications made for the IILD EU Ecolabel. Only biodegradability values for one multi-component product used with soft water were received. They were significantly lower than the current limits. Nevertheless, due to lack of data, no in depth analysis of the strictness level could be conducted. Lack of applications, according to explanations received from several stakeholders, is linked to the missing derogation for bleaching agents.

It is proposed to keep the current limit values for organic compounds as suggested also by some stakeholders, who stated that the criteria have been valid for not long enough yet and not many companies have had the chance to apply for the EU Ecolabel for I&I products.

2.8.3 Dishwasher detergents

Data on aNBO and anNBO for organic compounds of products that have been awarded an EU Ecolabel licence were collected from competent bodies and licence holders. In total, information for 43 dishwasher detergents (mostly tablets) was received, with a high variability in values (see Table 18).

Table 18. aNBO and anNBO ranges for dishwasher detergents

	Min	**Max**	**Average**	**Current limit (g/wash)**	**Proposed limit (g/wash)**
	aNBO(g/wash)				
Dishwasher detergent	0,00	1,01	0,61	1,00	1,00
	anNBO(g/wash)				
	0,00	3,65	1,47	5,50	3,00
Note: Comprehensive data for rinse aid not available					

Based on the analysis of the data provided and the feedback from the 2nd AHWG meeting, it is proposed to keep the value of aNBO at the current level (13 products had aNBO values close to the threshold set) and to lower the value of anNBO to 3,0 g/wash, as the value of 5,5 g/wash is too high according to the data collected. This proposed value of 3,00 g/wash would still allow all but one of the surveyed products to pass the threshold. Regarding rinse-aids, as only information for three products was provided, it is proposed to keep the current values.

2.8.4 Industrial and institutional dishwasher detergents

IIDD, along with IILD, is a relatively new product group and so far there have not been many applications submitted for an EU Ecolabel licence. Values for aNBO and anNBO for 13 IIDD products and 7 rinse aids were provided to the project team. According to this information, 4 detergents and 4 rinse aid products did not contain any organic compounds which were either aerobically or anaerobically non-degradable.

Table 19. aNBO and anNBO ranges for I&I dishwasher detergents

Industrial and institutional dishwasher detergents		Organics (soft water) g/l washing solution		Organics (medium water) g/l washing solution		Organics (hard water) g/l washing solution	
Kind		aNBO	anNBO	aNBO	anNBO	aNBO	anNBO
Dishwasher detergent/ Multi-component system	Current	0,40	0,60	0,40	1,00	0,40	1,50
	Min	0,00	0,00	0,00	0,00	0,00	0,00
	Max	0,12	0,59	0,34	0,74	0,20	0,81
Rinse aid	Current	0,04	0,04	0,04	0,04	0,04	0,04
	Min	0,00	0,00	0,00	0,00	0,00	0,00
	Max	0,02	0,02	0,03	0,02	0,02	0,02

The collected values indicate that the current thresholds could be slightly lowered but the provided information is considered too scarce to propose new limits. Thus, as for IILD products, it is proposed to keep the current values and to re-evaluate their strictness in the next revision.

2.8.5 Hand dishwashing detergents

In the current criteria, surfactants must be readily biodegradable. In addition, surfactants which are not biodegradable under anaerobic conditions may be used in the product provided that they are not classified as H400 (Very toxic to aquatic life) and are used at a concentration lower than 0,20 g/l washing water.

According to the data collected for approximately 100 hand dishwashing detergents that have been awarded with an EU Ecolabel licence, only 17 products contained very small amounts of surfactants which are not anaerobically biodegradable at maximum concentration of 0,08 g/l washing water. Only one product exceeded this value (0,13 g/l washing water). For all products, the amount present is significantly below the limit values set in the current criterion.

As information on aNBO and anNBO values for organic compounds contained in HDD and APC products was not required to be provided to CBs in the current criteria, all licence holders were contacteddirectly in order to gather information. Data for 28 products was received and showed that for hand dishwashing detergents the maximum content of aNBO was 0,03 g/l washing water and 0,05 g/l washing water for anNBO. Based on the information provided and taking into account the values for the content of non-biodegradable surfactants provided by current licence-holders, the following thresholds are proposed:

Table 20. aNBO and anNBO values proposed for hand dishwashing detergents

Product type	**aNBO** [g/l washing water]	**anNBO** [g/l washing water]
Hand dishwashing detergents	0,03	0,08

2.8.6 Hard-Surface Cleaning Products

As for HDD, in the current criteria for HSC, only a requirement on biodegradability of surfactants is set stating that all surfactants used must be readily biodegradable. Surfactants that are not biodegradable under anaerobic conditions may be used in the product in

concentrations lower than those included in Table 21, provided they are not classified as H400 (Very toxic to aquatic life).

Table 21. Current requirements on anNBO of surfactants for HSCs

Product	Weight of anaerobically non-biodegradable surfactants
Undiluted all-purpose cleaner	<0,4 g/l of cleaning solution
RTU all-purpose cleaner	<4,0 g/100 g of product
Sanitary cleaner	<2,0 g/100 g of product
Window cleaner	<2,0 g/100 g of product

Data have been collected from competent bodies on products that have been awarded an EU Ecolabel licence. According to the information received:

- out of 30 **RTU all-purpose cleaners** only two contained anaerobically non-degradable surfactants, up to 0,19 g/100 g of product,
- out of nearly 100 **undiluted all-purpose cleaners** only two contained anaerobically non-degradable surfactants, up to 0,40 g/l washing water,
- out of 49 **sanitary cleaners** only two contained anaerobically non-degradable surfactants (0,07 and 1,44 g/100 g of product),
- out of 42 **window cleaners** only two contained anaerobically non-degradable surfactants (0,03 and 1,6 g/100 g of product),
- out of 64 **bathroom cleaners** only 7 contained anaerobically non-degradable surfactants, up to 1,0 g/100 g of product for all but one which contained nearly 2,0 g/100 g of product,
- out of 19 **kitchen cleaners** only one contained surfactants which are aerobically degradable (2,0 g/100 g of product).

It can be seen that the HSC products currently awarded with EU Ecolabel contain very small amounts of non-degradable surfactants. Nevertheless, in order to harmonise the approach on biodegradability across all product groups, all organic compounds have to be taken into account. Therefore, thresholds for aNBO and anNBO of all organic compounds needed to be established for all the types of products covered by the HSC product group scope. Anonymous data collection among the current license holders and competent bodies was conducted to set the most appropriate limits. Data was received for:

- 25 RTU all-purpose cleaners,
- 41 undiluted all-purpose cleaners,
- 10 RTU window cleaners,
- 17 RTU sanitary cleaners and 12 RTU toilet cleaners,
- 2 undiluted sanitary cleaners.

There is a high diversity among the values provided, especially for anNBO (Table 22 and Table 23). Due to the restricted access to the formulations of products, the reasons for these variations are however not entirely known. Based on stakeholder feedback, one of the reasons is the lack of information on anNBO for many ingredients which are not available on the DID list and consequent classification of those as anaerobically non-degradable by the applicants.

Table 22 aNBO ranges for hard surface cleaning products

	No.	aNBO		
		Min	**Max**	**Proposed Limit**
		[g/l RTU product]		
All-purpose purpose cleaners *(RTU)*	25	0,3	5,8	3,0
Sanitary cleaners *(RTU)*	29	0,0	12,5	5,0
Window cleaners *(RTU)*	10	0,0	1,8	2,0
		[g/l cleaning solution]		
All-purpose cleaners *(undiluted)*	41	0,0	0,5	0,2
Sanitary cleaners *(undiluted)*	2	0,15	0,2	0,2
Window cleaners *(undiluted)*	-	n.d.	n.d.	0,2

Table 23 anNBO ranges for hard surface cleaning products

	No.	aNBO		
		Min	**Max**	**Proposed Limit**
		[g/l RTU product]		
All-purpose purpose cleaners *(RTU)*	25	1,0	94,7	55,0
Sanitary cleaners *(RTU)*	29	0,0	35,0	35,0
Window cleaners *(RTU)*	10	0,1	35,0*	20,0
		[g/l cleaning solution]		
All-purpose cleaners *(undiluted)*	41	0,01	1,85	0,5
Sanitary cleaners *(undiluted)*	2	0,33	0,40	0,5
Window cleaners *(undiluted)*	-	n.d.	n.d.	0,5

* one outlier of 101 g/l

Due to the very high variability of the values provided, proposing reasonable thresholds was difficult. The reasoning for the final proposal is as follows:

aNBO for organic compounds

- for **RTU all-purpose cleaners,** values for 25 products were provided. The average was of approximately 2,0 g/l RTU product, nevertheless several products had values around 3,0 g/l RTU product and this threshold is proposed in this first criteria version. Only one of the currently licenced products would not pass this requirement.
- in the case of **RTU sanitary cleaners** and **toilet cleaners,** the average value was 2,4 g/l RTU product, however 9 products out of 29 exceeded this value. Two very high values around 13 g/l were reported. In addition six products contained between 4,0 and 5,0 g/l and aNBO organic compounds. Due to scarcity of data and in order not to make the requirement too restrictive, a threshold of 5,0 g/l RTU product is proposed.
- for **RTU window cleaners,** information for 10 products was provided with a maximum concentration of 2 g/l RTU product. Due to the limited data available, this conservative threshold is proposed.
- in the case of **undiluted all-purpose cleaners,** values for 41 products were received. The average was of 0,04 g/l cleaning solution, as many products contained no or very low amounts of aNBO ingredients. The average value was exceeded by 11 products, with 0,5 g/l cleaning solution being the highest value. The proposed threshold of 0,2 g/l cleaning solution would allow most products to still pass the aNBO requirement.
- in the case of **undiluted window and sanitary cleaners**, due to data unavailability, the same threshold is proposed as for undiluted all-purpose cleaners.

anNBO for organic compounds

A much more complicated situation was encountered for the anaerobic biodegradation, due to data scarcity for ingredients which are not included in the DID list.

- for instance for **RTU all-purpose cleaners** the values of anNBO ranged between 1,0 and 97,5 g/l RTU product. 6 out of 25 products exceeded the value of 50 g/l RTU product. Setting the threshold at 55,0 g/l would allow all but two of the products listed to pass the requirement.
- in the case of **RTU sanitary and toilet cleaners** the values range between 0 and 35,0 g/l RTU product, with ten products (out of 29) ranging between 20,0 and 35,0 g/l. Due to this high variation, a very conservative value of 35 g/l RTU product is proposed. This value would allow all but 5 of the products list to pass the requirement (
- in the case of **RTU window cleaners**, the proposed value of 20,0 g/l of RTU product would be passed by all but two out of ten products listed.
- for **undiluted APC products** the average value was of 0,2 g/l of cleaning solution. 11 products (out of 41) exceeded this value. The propose conservative threshold of 0,5 g/l would allow all but 3 products to pass the requirement.
- for **undiluted window and sanitary cleaners**, the same threshold is proposed as for undiluted all-purpose cleaners, similarily like for aNBO.

Taking into account the above mentioned variability of data and its relatively low availability considerations whether this requirement should be introduced in this criteria revision were done. Setting conservative values in the first version of this requirement will maybe not give a strong push for products containing less non-degradable substances but will be a signal to the industry that these aspects needs to be taken into account from this criteria version on. As it is aimed at harmonising the criteria it is recommended to use the proposed values, which are considered rather high and should not be a limiting factor for the current licence holders, with the aim of re-evaluating the strictness of this criterion in the next revision and adjusting the levels appropriately. If no thresholds are set in this criteria revision, a similar situation with available data will be encountered in the coming revision as well.

Summarising, the following thresholds are proposed:

Table 24 aNBO and anNBO values proposed for hard surface cleaners

Product type	**aNBO**	**anNBO**
	[g/l RTU product]	
All-purpose purpose cleaners *(RTU)*	3,0	55,0
Sanitary cleaners *(RTU)*	5,0	35,0
Kitchen cleaners (RTU)	5,0	35,0
Window cleaners *(RTU)*	2,0	20,0
	[g/l cleaning solution]	
All-purpose cleaners *(undiluted)*	0,2	0,5
Sanitary cleaners *(undiluted)*	0,2	0,5
Kitchen cleaners (undiluted)	0,2	0,5
Window cleaners *(undiluted)*	0,2	0,5

2.9 CRITERION: Sustainable sourcing of palm oil, palm kernel oil and their derivatives

This wording applies to all product groups:

Proposal for the criterion on sustainable sourcing of palm oil, palm kernel oil and their derivatives
Ingoing substances used in the products which are derived from palm oil or palm kernel oil shall be sourced from plantations that at least meet the requirements of a certification scheme for sustainable production that addresses environmental impacts, including on soil, biodiversity and organic carbon stocks.
Assessment and verification The applicant shall provide third-party certification that the palm oil and palm kernel oil used in the manufacturing of the ingoing substances originates from sustainably managed plantations. Certifications accepted shall include that provided by the RSPO* (by identity preserved, segregated or mass balance) or any equivalent or stricter sustainable production scheme based on multi-stakeholder organizations that have a broad membership, including NGOs, industry and government. For chemical derivatives of palm oil and palm kernel oil, it is acceptable to demonstrate sustainability through book and claim systems such as GreenPalm or equivalent by providing the ACOP** declared amounts of redeemed GreenPalm during the most recent annual trading period. *Roundtable for sustainable palm oil ** Annual Communications Of Progress

Rationale of proposed Criterion

- Why should an EU Ecolabel criterion on oleochemicals be included?

The detergent and cleaning product industry uses some organic ingredients, such as surfactants, that can be obtained either from fossil (e.g. mineral oil) or renewable (e.g. coconut oil or palm kernel oil) raw materials. As surfactants constitute roughly one third of the total tonnage of all ingredients used in these types of products, their origin is of interest to this project. At present, surfactants based on a combination of palm kernel oil or coconut oil and non-renewable raw materials account for almost 50% of the total amount of surfactants used in the detergent and cleaner product industry. Overall, it is estimated that there is around 20% of renewable carbon in the total volume of surfactants used.

It is expected that the demand for oleochemicals (raw materials from renewable origins) *will increase in the coming years* because petrochemicals (raw materials from fossil origins) are strongly linked to environmental concerns related to climate change, the risk of accidents in maritime transport, the depletion of these resources and the political situation in producer countries. In light of the recent technical developments in the detergent product industry, it is unlikely that the demand for oleochemicals will be met using vegetable oils of European origin and it is expected that imports of coconut oil and/or palm kernel oil will increase.

- Why is this criterion limited to palm oil, palm kernel oil and their derivatives?

During stakeholder consultation, it was pointed out that there are currently three types of vegetable oils (palm oil, palm kernel oil and coconut oil) that can be used for replacing fossil raw materials in the production of surfactants. These oils are equivalent to each other from a technical perspective and their actual use is determined by price, market availability and market development.

The inclusion of these types of oils in EU Ecolabel criteria also must consider other aspects such as the attributed environmental impacts and the existence of reliable sustainability certification schemes.

a) *Palm oil*

Palm oil has the highest worldwide production out of the three oils and is mainly used in the food industry, although its use as an energy carrier (biodiesel) has increased in recent years. The amount of palm oil used by the detergent industry is not significant when compared to amounts used by the food and fuel industries. In 2012, the annual revenue received by Indonesia and Malaysia, the top two producers of palm oil, was of $40 billion. According to FAO forecasts, the global demand for palm oil will double by 2020 and triple by 2050.

A sustainable palm oil production depends on several ecological, economic and social aspects. Some of the most relevant aspects concern the cut down of primary forests or peatlands and the conversion of primary forest into plantations. These have very strong effects on indigenous population groups.

Several sustainability certification schemes have been put in place. Among them, the Roundtable Sustainability of the Palm Oil (RSPO) is the most widely used.

b) *Palm kernel oil*

In comparison with palm oil, obtaining palm kernel oil requires technical effort and higher energy input (Waschen 2013). With the growing cultivation of palms for palm oil, the volumes of palm kernel oil produced are twelve times as high today as compared to the 1960s. Due to the higher costs of production and the preferred use of palm oil in the food and fuel industries, palm kernel oil is often used as a raw material in the chemical industry where it competes with coconut oil.

While the sustainability aspects of the palm kernel oil production are the same as for palm oil production, the availability of certification schemes is a bit different. RSPO certifies palm kernel oil but the availability of this commodity under each of the four accounting systems included in RSPO is significantly different as compared to palm oil.

Palm kernel oil is mainly certified by the Book and Claim system where volume equivalents of RSPO-certified palm kernel oil are produced and subsequently go into the general production stream of palm kernel oil. Information on the RSPO website indicates that buying RSPO certificates is, for the time being, the only way for the detergent product industry to support a sustainable palm kernel oil production. Palm kernel oil certificate trading was introduced in 2010. While the number of certificates traded has followed the same development as for palm oil, the value of traded palm kernel oil certificates developed rather differently. The data shows a strong growth in their value from 2012 to 2013 and a lower value of sales is predicted for 2015. It was expected that palm kernel oil will start to be certified by the segregated system from 2015 but no data are yet available.

c) Coconut oil

Coconut trees have been cultivated in Asia (e.g. Indonesia, Malaysia, Filipinas, India, Sri-Lanka) for years. Even if the production of coconut oil is quite high, the overall production has decreasing in the last years (Figure 1) due to the dominance of palm oil on the lauric market, which has shifted from coconut oil towards palm oil and palm kernel oil. An exact breakdown of the shares of palm kernel oil and coconut oil used for these surfactants does not exist at the moment but, based on the tendencies observed, palm kernel oil will be dominant in this industry.

The sustainability of coconut oil production strongly depends on socio-economic aspects as working conditions and income of the labour force has to increase to ensure sufficiently high standards of living. This situation is a legacy of the post-feudal system and the monopoly structure of the copra and coconut oil production industry.
For the time being, there is no sustainability certification scheme for coconut oil.

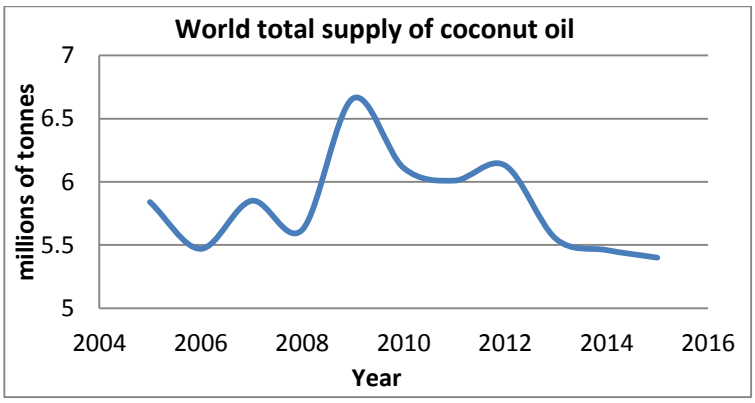


Figure 1: World coconut oil production (USDA 2016)

- Other aspects related to the wording of the criterion

a) Minimum threshold for renewable raw materials

During stakeholder consultation, it was proposed to set minimum requirements on the use of ingredients from renewable sources. Although the potential environmental benefit of these types of ingredients is recognised, it was not deemed possible to set such a requirement for all six product groups at this stage. Indeed, currently there is still a lack of data on the market availability of certified commodities. Some European regulations and ecolabelling schemes have also started looking into setting criteria in this area. For example, Nordic Swan were considering the "*possibility to set obligatory requirements in respect of sustainability and sourcing of raw materials from renewable sources*", (JRC 2013) the Renewable Energy Directive 2009/28/EC now sets requirements for vegetable oils to be used as fuels and the recently published EU Ecolabel for rinse-off cosmetics includes a requirement similar to the requirement proposed in this report.

b) RSPO and other certification schemes

Verifying the use of sustainably grown raw materials is challenging and exceeds the competencies of the competent bodies in charge of assessing EU Ecolabel application dossiers. Therefore, the verification of this type of criteria must rely on third party certification schemes.

The choice of the most suitable certification schemes is challenging since in most of cases there is not a single perfect certification scheme that fully fits the EU Ecolabel requirements (e.g. to guarantee the sustainable origin of the raw material, be broadly used in order to avoid any possible market distortion, be transparent, mature, well-established and based on multi-stakeholder principles and criteria)

For the time being, no EU legislation ensures the sustainability of vegetable oils and among the existing certification schemes RSPO appears to be the one that fulfils the highest number of requirements.

Indeed, RSPO is one of the most mature schemes on the market for vegetable oils, even if it can be considered relatively young in comparison to schemes certifying other commodities, and is able to certify the sustainable source of palm oil, palm kernel oil and their derivatives. This fact is especially remarkable for palm kernel oil as other schemes do not certify this commodity. The members of RSPO account for roughly 50% of the global palm oil production and also include the most important buyers and representatives of the processing industry. Data indicate that the availability of certified commodities through this scheme are sufficient for current demand and availability is expected increase in the upcoming years thanks to the commitment of different industries and increasing consumer demand. RSPO is a multi-stakeholder scheme based on eight principles and criteria that deal with economic, environmental and social aspects of commodity production. Further schemes are described in

the Section 3.12.2, but they generally do not fulfil some important basic requirements such as maturity, multi-stakeholder principles and criteria, relevant shares on the market, etc.

In order to acknowledge the existence of other schemes on the market and the possibility that they might become mature, the criteria wording suggests that the certification of the commodities is open to other schemes as long as the competent bodies assess their equivalence.

c) Accounting systems depending on the commodity

During stakeholder consultation, multiple suggestions were made and discussions were held related to the accounting system that should be required in the EU Ecolabel criteria. Currently certified derivatives from palm oil and palm kernel oil (e.g. surfactants, glycerine and other ingredients of detergent products) are only available through the book and claim system as the most demanding accounting systems (e.g. identify preserved, segregated) do not cover derivative for the time being. For palm kernel oil, there is also a lack of data on the availability of non-book and claim certified commodities. Thus, as for palm kernel oil and derivatives are the main commodities for the detergent product industry, the inclusion of the book and claim system should be accepted.

Palm oil is fully covered by the more demanding accounting systems (e.g. identify preserved, segregated system, mass balance) and there is enough availability on the market. Thus, these three more demanding accounting systems are proposed to be required for tracking the sustainability of palm oil.

The book and claim system, Greenpalm (http://greenpalm.org/ n.d.), was established as a supply chain option to create market demand for RSPO certified sustainable palm oil. It was put in place to allow manufacturers time to make the transition to 100% certified sustainable palm oil (CSPO) and was meant to only last until buyers could access a steady and traceable supply of CSPO. For the time being it seems that this transition is still ongoing. In theory and assuming there are no frauds and the appropriate audit checks are performed, the book and claim system should be valid for ensuring the production of sustainable commodities.

d) Other details

As a balance needs to be found in order not to excessively burden applicants and discourage the use of biosurfactants, it is proposed to keep the criterion and follow the assessment and verification that has been agreed for the EU Ecolabel for Rinse-off cosmetics.

Feedback during the revision process suggested that two clarifications should be added either in the Assessment and Verification part of the criterion or in the User Manual:

- For the application, the applicant (manufacturer) shall provide documentation proving RSPO membership (or GreenPalm, if applicable).
- In the year after the application for the EU Ecolabel (at the earliest after end of March), the applicant needs to provide the documents (ACOP reports) with the calculation of the amount of commodities purchased and redeemed and the certificates. The annual communications of progress (ACOP) are reports submitted by RSPO members to gauge their progress towards 100% RSPO-CSPO. These reports are mandatory for ordinary and affiliate members and are submitted every year. Additionally, the RSPO website includes a database were these data are publicly available, making the assessment a verification of the requirement easier.

2.10 CRITERION: Excluded and restricted substances

Rationale of proposed Criterion

For each product group LCA studies performed as part of the technical analysis showed that the chemicals used in the formulation of detergent products significantly contribute to the overall environmental impacts. The aim of this criterion is to exclude or limit toxic or harmful

substances, thus ensuring that the EU Ecolabel is only awarded to the least environmentally impacting products.

Limiting the amount of environmentally harmful substances contained in detergents is essential as they are released to the aquatic environment after use. Although detergent wastewater generally goes through wastewater treatment systems (see further information in Section 8.16.2 of the 2nd Technical Report (JRC 2015)), in the worst case scenario, ingredients may be released directly into the aquatic environment. The Detergent Regulation does not prohibit the use of substances in detergent products on the basis of their environmental properties, but the EU Ecolabel Regulation sets out general requirements for substances, as explained further in sub-criteria (b) and (c).

The information is presented separately for each sub-criteria, following the order of the criteria text:

1) Sub-criterion (a): Specified excluded and restricted substances
2) Sub-criterion (b): Hazardous substances
3) Derogations from sub-criterion (b): Hazardous substances
4) Sub-criterion (c): Substances of Very High Concern (SVHCs)
5) Sub-criterion (d): Fragrances
6) Sub-criterion (e): Preservatives
7) Sub-criterion (f): Colouring agents
8) Sub-criterion (g): Enzymes
9) Sub-criterion (h): Corrosive properties

2.10.1 Sub-criterion (a): Specified excluded and restricted substances

As requested by competent bodies and other stakeholders, a common harmonised list is proposed for substances which are specifically excluded from the formulation of all detergent and cleaning product groups (sub-criterion (i)).

Additionally, sub-criterion (ii) covers restricted substances. These restrictions are based either on:

- the function of the chemicals (i.e. fragrances subject to the declaration requirement provided in the Detergents Regulation) or
- the chemical composition (i.e. total content of phosphorus compounds).

Proposal for sub-criterion (i) Excluded substances

The substances indicated below shall not be included in the product formulation regardless of concentration:

- Alkyl phenol ethoxylates (APEOs) and other alkyl phenol derivatives
- Atranol
- Chloroatranol
- Diethylenetriaminepentaacetic acid (DTPA)
- Ethylenediaminetetraacetic acid (EDTA) and its salts
- Formaldehyde and its releasers (e.g. 2-bromo-2-nitropropane-1,3-diol, 5-bromo-5-nitro-1,3-dioxane, sodium hydroxyl methyl glycinate, diazolinidyl urea) with the exception of impurities of formaldehyde in non-ionic surfactants up to a concentration of 0,01% weight by weight in the ingoing substance
- Hydroxyisohexyl 3-cyclohexene carboxaldehyde (HICC)
- Microplastics
- Nanosilver
- Nitromusks and polycyclic musks
- Per-fluorinated alkylates

- Quaternary ammonium salts not readily biodegradable
- Reactive chlorine compounds
- Triclosan

In addition:

LD	Phosphates
IILD	--
DD	Phosphates
IIDD	Fragrances
HSC	Phosphates Aromatic solvents Halogenated solvents
HDD	Phosphates

Assessment and verification

The applicant shall provide a signed declaration of compliance supported by declarations from suppliers, if appropriate, confirming that the listed substances have not been included in the product formulation regardless of concentration.

Proposal for sub-criterion (ii) Restricted substances

The substances listed below shall not be included in the product formulation above the concentrations indicated:
- 2-methyl-2H-isothiazol-3-one: 0,0050 % weight by weight
- 1,2-Benzisothiazol-2(2H)-one: 0,0050 % weight by weight
- 5-chloro-2-methyl-4-isothiazolin-3-one/2- methyl-4-isothiazolin-3-one: 0,0015 % weight by weight

LD

- the total phosphorus calculated as elemental P shall be limited to 0,04 gP/kg of laundry
- fragrance substances subject to the declaration requirement provided in Detergent Regulation (EC) No 684/2004 shall not be present in the final product in quantities above 0,010% per substance weight by weight

IILD

- the total phosphorus calculated as elemental P shall be limited to:
  0,50 gP/kg of laundry for light soil
  1,00 gP/kg of laundry for medium soil
  1,50 gP/kg of laundry for heavy soil
- fragrance substances subject to the declaration requirement provided in Detergent Regulation (EC) No 684/2004 shall not be present in the final product in quantities above 0,010% weight by weight per substance

DD

- the total phosphorus calculated as elemental P shall be limited to:
  0,20 gP/wash for dishwasher detergents
  0,30 gP/wash for rising agents
- fragrance substances subject to the declaration requirement provided in Detergent Regulation (EC) No 684/2004 shall not be present in the final product in quantities above 0,010% weight by weight per substance

IIDD

- the total phosphorus calculated as elemental P shall be limited to:

Product type (in gP/l washing water)	Water hardness (mmol $CaCO_3$/l)		
	<1,5	1,5-2,5	>2,5
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

- fragrance substances subject to the declaration requirement provided in Detergent Regulation (EC) No 684/2004 shall not be present in the final product in quantities above 0,010% weight by weight per substance

HSC

- the total phosphorus calculated as elemental P shall be limited to:

Product type	for the reference dosage
All-purpose cleaners (RTU)	2,00 gP/l of RTU product
All-purpose cleaners (undiluted)	0,02 gP/l of cleaning solution
Sanitary cleaners (RTU)	10,00 gP/l of RTU product

<table>
<tr><td></td><td>
<table>
<tr><td>Sanitary cleaners (undiluted)</td><td>1,00 gP/ l of cleaning solution</td></tr>
<tr><td>Kitchen cleaner (RTU)</td><td>10,00 gP/l of RTU product</td></tr>
<tr><td>Kitchen cleaners (undiluted)</td><td>1,00 gP/l of cleaning solution</td></tr>
<tr><td>Window cleaners (RTU)</td><td>0,00 gP/ l of RTU product</td></tr>
<tr><td>Window cleaners (undiluted)</td><td>0,00 gP/l of cleaning solution</td></tr>
</table>
- fragrance substances subject to the declaration requirement provided in Detergent Regulation (EC) No 684/2004 shall not be present in the final product in quantities above 0,010% weight by weight per substance

- VOCs** shall not be present above the limits specified in Table 74
Table 74. Specific VOC content limits depending on the cleaning products (weight by weight)
<table>
<tr><th>Cleaner</th><th>RTU</th><th>Undiluted</th></tr>
<tr><td>All purpose cleaners</td><td rowspan="3">≤ 6%</td><td rowspan="3">≤ 0,2% in the final dilution</td></tr>
<tr><td>Sanitary cleaners</td></tr>
<tr><td>Kitchen cleaners</td></tr>
<tr><td>Window cleaners</td><td>≤ 10%</td><td>--</td></tr>
</table>
**VOCs means any organic compound having a boiling point lower than 150C
</td></tr>
<tr><td>HDD</td><td>- the total phosphorus calculated as elemental P shall be limited to 0,08 gP/l washing water
- fragrance substances subject to the declaration requirement provided in Detergent Regulation (EC) No 684/2004 shall not be present in the final product in quantities above 0,010% weight by weight per substance</td></tr>
<tr><td colspan="2">Assessment and verification

The applicant shall provide:
- a signed declaration of compliance supported by declarations from suppliers, if appropriate, confirming that the total amount of elemental P is equal to or lower than the set limits. The declaration shall be supported by the calculations of the product's total P-content.
- a signed declaration of compliance supported by declarations or documentation from suppliers, if appropriate, confirming that the fragrance substances subject to the declaration requirement provided in Detergent Regulation (EC) No 684/2004 are not present above the set limits.
- if isothiazolinones are used, a signed declaration of compliance supported by declarations from suppliers, if appropriate, confirming that the content of isothiazolinones used is equal to or lower than the set limits.</td></tr>
<tr><td>LD
IILD
DD</td><td>-</td></tr>
<tr><td>IIDD</td><td>(in addition) - a signed declaration of compliance confirming that fragrances have not been added to the product formulation.</td></tr>
<tr><td>HSC</td><td>(in addition) - a signed declaration of compliance, supported by declarations from the suppliers if appropriate, confirming that the total amount of VOCs is below the set limits. This declaration shall be supported by test reports or calculations of the VOC content based on the list of ingredients.</td></tr>
<tr><td>HDD</td><td>-</td></tr>
</table>

Rationale of proposed Criterion

As explained in the introductory section to the criterion on substances, the technical analysis conducted in the framework of the revision showed that chemicals used in the formulations of detergent and cleaning products are of importance for the overall environmental impacts. Thus the intention of this criterion is to address specific substances, and exclude or restrict them, to help EU Ecolabel products achieve a better environmental performance.

During the 1st and 2nd AHWG meetings, discussions regarding the list of excluded substances were held and the list included in the proposed criterion is the resulting compromise, with minor changes (see explanation on formaldehyde residues below). Further information collected on each substance as part of the revision process can be found in the 1st and 2nd Technical Annexes, as follows:

– Section 7.10.1 of the 1st Technical Annexe (JRC 2014) for diazolinidylurea, DTPA, EDTA, formaldehyde, nitromusks and plycyclic musks, quaternary ammonium salts not readily biodegradable, reactive chlorine compounds, 5-bromo-5-nitro-1,3-dioxane (BND), 2-bromo-2-nitropropane-1,3-diol (Bronopol), sodium hydroxyl methyl glycinate, perfluorinated and polyfluorinated alkylated substances, triclosan and nanosilver,

– Section 7.10.4 of the 1st Technical Annexe (JRC 2014) for fragrances, and in particular atranol, chloroatranol and hydroxyisohexyl 3-cyclohexene carboxaldehyde (HICC),

– Section 8.12.3 of the 2nd Technical Annexe (JRC 2015) for microplastics, endocrine disruptors, nanomaterials, alkyl-phenol ethoxylates (APOEs) and alkyl-phenol ethoxylate derivatives (APDs) and perborates,

– Section 8.15 of the 2nd Technical Annexe (JRC 2015) for volatile organic compounds in HSCs and the restrictions on aromatic and halogenated compounds,

– Section 8.16.2 of the 2nd Technical Annexe (JRC 2015) for phosphorus content and restrictions on the type of phosphorus.

Additional information complementing the above-mentioned is presented below:

2.10.1.1 Formaldyhyde residues

During discussions on the explicit exclusions of certain substances from EU Ecolabel products, stakeholders brought up the issue of potential classified impurities in raw materials, which cannot be technically avoided. In the current criteria, there is only one such exception allowed in the product groups under study – for impurities of NTA in MGDA and GLDA (for details see Section 2.10.2.1.5 - Derogations). Following the discussions, it was understood that, despite of technical progress in production processes, accepting certain concentrations of other impurities from the manufacturing or storage processes (e.g. formaldehyde residues in surfactants) might be needed. Complete (i.e. regardless of concentration) exclusion of formaldehyde from the EU Ecolabel, as per sub-criterion (a), would mean that impurities are also not allowed anymore and this could have a significant impact on certain raw materials of relevance for these product groups.

Information provided by industry shows that the formation of small amounts of formaldehyde takes place during the manufacturing and storage of certain important non-ionic surfactants, like the ethoxylated and propoxylated fatty alcohols. They are produced through a reaction of fatty alcohols with ethylene oxide that forms chains of polyoxyethylene, which is susceptible to air oxidation that causes degradation. This process can trigger the release of trace amounts of formaldehyde. According to analyses performed by industry, the amount of these impurities may slightly exceed 100 ppm in the raw material (up to 105 ppm) but it should be significantly below the threshold of 0,010% in the final product. Thus, it is proposed to allow the impurities of formaldehyde in non-ionic surfactants up to the threshold of 0,01% in the final formulation but to exclude any intentional use of formaldehyde and its releasers in the detergent and cleaning products.

2.10.1.2 Isothiazolinones

During the discussion on preservatives, the issue of isothiazolinones, and in particular of methylisothiazolinone (MIT), was raised. MIT is recognised as skin sensitizer based on experimental data on animals and humans and its use of as a preservative in various consumer products raises more and more discussions due to its sensitizing properties (SCCS 2015).

In recent years the Scientific Committee for Consumer Safety (SCCS) has studied several times the subject of isothiazolinones use in cosmetic products and their sensitizing properties.

Recently DG GROW conducted a consultation on possible additional (to the already existing ones) restrictions on the use of MIT in the framework of Regulation (EC) No 1223/2009 on cosmetic products[4]. It was consulted whether to:

- ban the use of methylisothiazolinone as a preservative in leave-on cosmetic products;
- and maintain the current authorisation of methylisothiazolinone as a preservative in rinse-off cosmetic products up to a maximum concentration of 100 ppm.

The results of this consultation showed agreement of the scientific community on the fact that the level of 100 ppm should be lowered for rinse-off cosmetic products and the use of MIT in leave-on products should be banned.

In December 2015 a fourth opinion of SCCS related to MIT was published. It confirmed that "*for rinse-off cosmetic products, a concentration of 15 ppm (0,0015%) MIT is considered safe for the consumer from the point of view of induction of contact allergy*" (SCCS 2015).

A new public consultation was launched on April 1st, 2016 on MIT use in the cosmetic sector[5]. The consultation will be finalised in July 2016. The proposed modifications to Annex V of the Cosmetics Regulation, which restricts the use of certain ingredients, are as follows:

(1) Restricting the use of MIT to 15ppm in rinse-off products, with the obligation of a "contains methylisothiazolinone" labelling.

(2) The use of MIT as a preservative in hair leave-on cosmetic products is banned.

Although these developments refer to cosmetic products, they are of importance to detergents and cleaning products as well. This is particularly true for products with direct skin contact like hand dishwashing detergents.

MIT does not yet have a harmonised European classification under the CLP Regulation but a proposal was submitted to ECHA by Slovenia in July 2015. The proposal does not only cover sensitizing properties but also a classification as "hazardous to the aquatic environment".

A mixture of chloromethylisothiazolinone (CMIT) and MIT is also used as a preservative and has a harmonised classification as a Category 1 skin sensitiser and "hazardous to the aquatic environment". The Cosmetics Regulation authorizes the use of the CMIT/MIT preservative in rinse-off cosmetic products at a maximum concentration of 15 ppm in the ratio 3:1. In addition to this mixture, benzoisothiazolinone (BIT) is also used in detergents and cleaning products, sometimes also in a mixture with MIT.

According to the "Opinion of the French Agency for Food, Environmental and Occupational Health & Safety on the use of MIT in everyday products and the associated risks of dermal and respiratory sensitisation"[6] (published in 2016), substances which could theoretically be considered as substitutes for MIT and authorised in the Product-Type 6 (PT6) of the Biocidal Product Regulation (BPR) (EC) no 528/2012 also have undesirable impacts on human and environmental toxicity. It is emphasized that the development of safer alternatives is needed.

Industry consultation showed that they still widely use isothiazolinones in their products due to their high efficacy, broad spectrum of pH where they effective and low concentrations needed. A complete ban of isothiazolinones might have considerable impact on the current licence holders of EU Ecolabel products. Consultation on the current use of isothiazolinones revealed that, out of 45 licence holders who shared information with the project team, 12 did

[4] For more information see: http://ec.europa.eu/growth/tools-databases/newsroom/cf/itemdetail.cfm?item_id=8372.
[5] For details of the proposal see: http://ec.europa.eu/growth/tools-databases/newsroom/cf/itemdetail.cfm?item_id=8740.
[6] Opinion of the French Agency for Food, Environmental and Occupational Health & Safety on the use of MIT in everyday products
and the associated risks of dermal and respiratory sensitisation, February 2016, available online at: https://www.anses.fr/en/system/files/CONSO2014SA0186EN.pdf.

not use isothiazolinones in their products. MIT was used by 14 manufacturers, BIT by 18, the mixture CMIT/MIT by 9, and the mixture MIT/BIT by 9 manufacturers.

Typical concentrations for the use of MIT were of 49 ppm, with two cases of 15 ppm and three cases of approximately 100 ppm. 50 ppm is also the most reported BIT concentration; however, for this preservative higher concentrations of 100, 250 and even 400 ppm were also reported for four products. The CMIT/MIT mixture was used at maximum concentration of 15 ppm, which is, incidentally, the concentration allowed in cosmetic rinse-off products. The average reported BIT/MIT concentration was around 50 ppm per substance, with one exception of 250 ppm in undiluted products.

In two cases manufacturers reported that they try to substitute isothiazolinones with phenoxyethanol. However, they indicated that the concentration needed for the same efficacy is higher and the use of phenoxyethanol is more expensive. In addition, this preservative cannot be used in all products, such as viscous ones. Many others expressed strong concerns regarding a potential ban on isothiazolinones, due to the limited availability of authorised alternatives, and indicated that setting the thresholds too low would contribute to decreasing the efficacy of preservatives and be counterproductive, as it would decrease the microbiological stability of products and shorten their shelf life, leading to more spoiled products.

It is clear that stimulating the development of safer alternatives to isothiazolinones is needed and the EU Ecolabel could incentivise industry towards substitution of these substances. On the other hand, it should not be forgotten that setting too strict requirements could lead to a drastic decrease in the number of licences for EU Ecolabel detergents and, in consequence, to an overall lower environmental benefit of the EU Ecolabel scheme for these product groups. It is thus proposed to introduce a step-wise approach in limiting the use of isothiazolinones.

As a first step, a limitation on the amount of allowed isothiazolinones could be set in the criteria. Based on the analysis of the available data, the maximum amounts proposed to be listed (and reported by the manufacturers as effective) are as follows:

- 50 ppm for MIT,
- 50 ppm for BIT,
- 15 ppm for CMIT/MIT combination.

It is further proposed that the Commission Statement accompanying the criteria vote should contain a provision that, after two years from the adoption of the criteria, the possibility to lower the amounts of allowed isothiazolinones shall be evaluated in the light of the technical progress in the substitution of these preservatives. By that time, proposal for an amendment of the Annex V of the Cosmetics Regulation on the maximum allowed concentration of isothiazolinones should be known and should also be taken into account.

Such step-wise approach would, on the one hand, ensure more restricted use of MIT in detergent and cleaning products and, on the other hand, give a signal to industry to focus more efforts on looking for alternatives, though giving them a kind of transition period for this task.

2.10.1.3 Volatile Organic Compounds (VOCs)

VOCs are found in many cleaning product formulations and have been determined to be a major contributing factor to the formation of ground-level ozone and, depending on the time and level of exposure, may have negative effects on the nervous system.

Although stakeholders unanimously agreed that there is a need to restrict the amount of VOCs in hard-surface cleaning products, difficulties were encountered in setting the correct limits. These difficulties mainly arose from the fact that there are multiple definitions as to what constitutes a VOC and this has an impact on the classification of substances as VOCs and setting a maximum amount of VOCs allowed.

During stakeholder consultation, a proposal by the project team to bring the VOC definition in line with the VOC definition included in Directive 1999/13/EC. This proposal did not gather favourable feedback and is not proposed at this stage. This change would have implied a change in the VOC content limits and would have been difficult evaluate.

2.10.1.4 P-compounds and total elemental P-content

Discussions on both the type of P-compounds and level of ambition of the criteria related to total P-content were held during the revision process.

There are several types of P-compounds that have relevant detergency properties and are linked to environmental concerns. Among these P-compounds are:

– *Phosphates* have been widely used in the detergent industry due to their excellent detergency properties (see section 3.14). However, the presence of phosphates in ecosystems is strongly related to eutrophication and several legislative measures have already been put in place to try and reduce the amount of phosphates, and phosphorus in general, in water bodies across EU.

The evaluation of the environmental costs and benefits associated to the use of phosphates in industrial and institutional products is especially relevant. As described in more detail 8.16.2.1 of the 2nd Technical Report (JRC 2015) and in section 3.14, the improvements in the implementation of wastewater treatment plants, together with the associated performance benefits linked to the use of phosphates, suggest that a restriction on the use of this substance does not directly equate to an overall better environmental performance for this kind of products. Therefore, it is proposed to allow the use of phosphates for ILDD but with restrictions on the total P-content remaining in place.

– *Phosphonate*s are other P-compounds that are widely used in detergent formulations. The restriction of phosphonates that are not biodegradable was proposed during the revision process but stakeholders pointed out that this type of restriction is not feasible and not relevant from an environmental point of view.

– *Other P-compounds* that can be used in the formulation of detergents are limited for all product types under the general restrictions on P-content. The limit values proposed have been revised based on the values included in other Ecolabel schemes, the water hardness of reference and the intended use of the products.

2.10.1.5 Fragrance substances subject to the declaration requirement provided in Detergent Regulation (EC) No 684/2004

Some stakeholders requested the inclusion of the list of fragrances subject to the declaration in the criteria text, for clarity and ease of verification. This list is from the Detergent Regulation, which refers to Annex III of the Cosmetic Regulation (EC) No 1223/2009, which specifies the excluded and restricted substances for cosmetic products. This Annex can be amended and any such amendment would require an amendment of the EU Ecolabel criteria decisions. Thus it is not proposed to add the list to the actual criteria text but rather to the User Manuals and the appropriate declarations.

2.10.2 Sub-criterion (b): Hazardous substances

Proposal for sub-criterion (b) Hazardous substances

(i) Final product

The final product shall not be classified and labelled as being acutely toxic, a specific target organ toxicant, a respiratory or skin sensitiser, or carcinogenic, mutagenic or toxic for reproduction, hazardous to the environment, as defined in Annex I of Regulation (EU) No 1272/2008[7].

(ii) Ingoing substances

The product shall not contain ingoing substances meeting the criteria for classification as toxic, hazardous to the environment, respiratory or skin sensitizers, carcinogenic, mutagenic or toxic for reproduction in accordance with Annex I of Regulation (EC) No 1272/2008 and as interpreted according to the hazard statements listed in Table 25.

Any ingoing substance present at a concentration above 0,010% weight by weight in the final product shall meet this requirement. Where stricter, the generic or specific concentration limits determined in accordance with Article 10 of Regulation (EC) No 1272/2008 shall prevail to the cut-off limit value of 0,010% weight by weight.

Table 25 Restricted hazard classifications and their categorisation

Acute toxicity	
Category 1 and 2	**Category 3**
H300 Fatal if swallowed	H301 Toxic if swallowed
H310 Fatal in contact with skin	H311 Toxic in contact with skin
H330 Fatal if inhaled	H331 Toxic if inhaled
H304 May be fatal if swallowed and enters airways	EUH070 Toxic by eye contact
Specific target organ toxicity	
Category 1	**Category 2**
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
Respiratory and skin sensitisation	
Category 1A	**Category 1B**
H317: May cause allergic skin reaction	H317: May cause allergic skin reaction
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
Carcinogenic, mutagenic or toxic for reproduction	
Category 1A and 1B	**Category 2**
H340 May cause genetic defects	H341 Suspected of causing genetic defects
H350 May cause cancer	H351 Suspected of causing cancer
H350i May cause cancer by inhalation	
H360F May damage fertility	H361f Suspected of damaging fertility
H360D May damage the unborn child	H361d Suspected of damaging the unborn child
H360FD May damage fertility. May damage the unborn child	H361fd Suspected of damaging fertility. Suspected of damaging the unborn child
H360Fd May damage fertility. Suspected of damaging the unborn child	H362 May cause harm to breast fed children
H360Df May damage the unborn child. Suspected of damaging fertility	
Hazardous to the aquatic environment	

[7] 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, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (Text with EEA relevance) (OJ L 353, 31.12.2008, p. 1–1355).

Category 1 and 2	Category 3 and 4
H400 Very toxic to aquatic life	H412 Harmful to aquatic life with long-lasting effects
H410 Very toxic to aquatic life with long-lasting effects	H413 May cause long-lasting effects to aquatic life
H411 Toxic to aquatic life with long-lasting effects	
Hazardous to the ozone layer	
H420 Hazardous to the ozone layer	

The most recent classification rules adopted by the Union shall take precedence over the listed hazard classifications in accordance with Article 15 of Regulation (EC) No 1272/2008.

This criterion does not apply to ingoing substances covered by Article 2(7)(b) of the Regulation (EC) No 1907/2006[8] which sets out criteria for exempting substances within Annex V from the registration, downstream user and evaluation requirements. In order to determine if this exclusion applies, the applicant shall screen any ingoing substance present at a concentration above 0,010% weight by weight.

Substances and mixtures included in

Table 26 are exempted from this requirement.

Table 26 Derogated substances

LD

Substance	Hazard statement
Surfactants	H400: Very toxic to aquatic life
	H412: Harmful to aquatic life with long-lasting effects
Subtilisin	H400: Very toxic to aquatic life H411: Toxic to aquatic life with long-lasting effects
Enzymes(*)	H317: May cause allergic skin reaction
	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
ε-phthalimido-peroxy-hexanoic acid (PAP) used as bleaching agent at max concentration of 0,6 g/kg laundry	H400: Very toxic to aquatic life H412: Harmful to aquatic life with long-lasting effects
NTA as an impurity in MGDA and GLDA (**)	H351: Suspected of causing cancer

(*) Including stabilisers and other auxiliary substances in the preparations
(**) In concentrations lower than 0,2 % in the raw material as long as the total concentration in the final product is lower than 0,10 %.

[8] 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, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC (OJ L 396, 30.12.2006, p.1).

IILD

Substance	Hazard statement
Surfactants	H400: Very toxic to aquatic life
	H412: Harmful to aquatic life with long-lasting effects
Subtilisin	H400: Very toxic to aquatic life H411: Toxic to aquatic life with long-lasting effects
Enzymes(*)	H317: May cause allergic skin reaction
	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
Peracetic acid/hydrogen peroxide used as bleaching agent	H400: Very toxic to aquatic life H410: Very toxic to aquatic life with long-lasting effects H412: Harmful to aquatic life with long-lasting effects
ε-phthalimido-peroxy-hexanoic acid (PAP) used as bleaching agent at max concentration of 0,6 g/kg laundry	H400: Very toxic to aquatic life H412: Harmful to aquatic life with long-lasting effects
NTA as an impurity in MGDA and GLDA (**)	H351: Suspected of causing cancer

(*) Including stabilisers and other auxiliary substances in the preparations
(**) In concentrations lower than 0,2 % in the raw material as long as the total concentration in the final product is lower than 0,10 %.

DD

Substance	Hazard statement
Surfactants	H400: Very toxic to aquatic life
	H412: Harmful to aquatic life with long-lasting effects
Subtilisin	H400: Very toxic to aquatic life H411: Toxic to aquatic life with long-lasting effects
Enzymes(*)	H317: May cause allergic skin reaction
	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
NTA as an impurity in MGDA and GLDA (**)	H351: Suspected of causing cancer

(*) Including stabilisers and other auxiliary substances in the preparations
(**) In concentrations lower than 0.2 % in the raw material as long as the total concentration in the final product is lower than 0.10 %.

IIDD

Substance	Hazard statement
Surfactants	H400: Very toxic to aquatic life
	H412: Harmful to aquatic life with long-lasting effects
Subtilisin	H400: Very toxic to aquatic life H411: Toxic to aquatic life with long-lasting effects
Enzymes(*)	H317: May cause allergic skin reaction
	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
NTA as an impurity in MGDA and GLDA (**)	H351: Suspected of causing cancer

(*) Including stabilisers and other auxiliary substances in the preparations
(**) In concentrations lower than 0,2 % in the raw material as long as the total concentration in the final product is lower than 0,10 %.

HSC

Substance	Hazard statement
Surfactants	H400: Very toxic to aquatic life
	H412: Harmful to aquatic life with long-lasting effects
Enzymes(*)	H317: May cause allergic skin reaction
	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
NTA as an impurity in MGDA and GLDA (**)	H351: Suspected of causing cancer

(*) Including stabilisers and other auxiliary substances in the preparations
(**) In concentrations lower than 0,2 % in the raw material as long as the total concentration in the final product is lower than 0,10 %.

HDD

Substance	Hazard statement
Surfactants	H400: Very toxic to aquatic life
	H412: Harmful to aquatic life with long-lasting effects
Subtilisin	H400: Very toxic to aquatic life H411: Toxic to aquatic life with long-lasting effects
Enzymes(*)	H317: May cause allergic skin reaction
	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
NTA as an impurity in MGDA and GLDA (**)	H351: Suspected of causing cancer

(*) Including stabilisers and other auxiliary substances in the preparations
(**) In concentrations lower than 0,2 % 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 for the final product and for any ingoing substance present at a concentration greater than 0,010 % weight by weight in the final product. The applicant shall provide a signed declaration of compliance supported by declarations from suppliers, if appropriate, SDS confirming that none of these substances meets the criteria for classification with one or more of hazard statements listed in Table 25 in the form(s) and physical state(s) they are present in the product.

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 REACH, a declaration to this effect by the applicant shall suffice to comply.

The applicant shall provide a signed declaration of compliance supported by declarations from suppliers, if appropriate, or SDS confirming the presence of ingoing substances that fulfil the derogation conditions.

Rationale of proposed Criterion

This sub-criterion is directly linked to the requirements given in the EU Ecolabel Regulation (EC) No 66/2010 which states that:

> "*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 to be included for 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".*

Information on the derogations proposed for all six product groups is given below.

2.10.2.1 Derogations

2.10.2.1.1 Surfactants

The European Committee of Organic Surfactants and their Intermediates (CESIO) provided updated information on the classification of surfactants for aquatic toxicity, following the 2nd ATP (Adaptation to Technical and Scientific Progress) to the CLP Regulation. The ATP changed the rules for classification of "chronic aquatic toxicity" and this has affected many surfactants; however a detailed analysis of the classification of surfactants used in EU Ecolabel and non-EU Ecolabel detergent and cleaning products was not possible due of a lack of access to exact product formulations. The analysis of the document provided by CESIO and information shared with the project team confirms that a very high number of surfactants is classified with H412, a significantly lower number is classified with H411, and even fewer with H410. In certain types of surfactants the classification with H400 is also common, e.g. in amphoteric surfactants such as alkyl dimethyl amines or non-ionic ones, e.g. fatty amine etoxylates, longer-chain fatty alcohol etoxylates. Nevertheless, the acute classification with H400 is especially common for surfactants classified as chronic category 1 and 2, which are not allowed in EU Ecolabel products.

Due to the very high variability of surfactants available on the market and the fact that surfactant systems are commonly composed of several substances in order to enhance the performance of the product, it is very difficult to have a clear overview of the shares of surfactants with classification in the final formulations of products. During stakeholder consultation, it was commonly agreed that the need for the derogation for surfactants contained in detergent and cleaning products is still relevant and should be kept in the criteria. Similar derogations are also granted in other environmental schemes, like the Nordic Swan or Environmental Choice New Zealand.

Regarding the derogation for surfactants classified with H411 in hand dishwashing detergents, according to the information provided, it was introduced during the previous revision as industry predicted chronic classifications based on DID list toxicity values in the light of the 2nd ATP[9] to the CLP Regulation. It was expected that betaines, which are very often used in hand dishwashing detergents, would be classified with H411. In accordance with the current classification, betaines are classified with a category 3 aquatic hazard (H412) and thus the mentioned derogation is proposed to be withdrawn from the criteria for hand dishwashing detergents.

A consultation was conducted regarding the need to allow for "*final product classification with H412"*. It was linked to the issue of prooting more concentrated products through the EU Ecolabel scheme. The agreement among the majority of members of the EUEB was that such a labelling could have a negative impact on the image of the EU Ecolabel and should not be

[9] ATP = Adaptation to Technical Progress

allowed. No technical information (e.g. real formulations examples, share of products), substantiating this request and its relevance were put forward by industry.

The discussions on the derogations for surfactants also touched on the share of classified surfactants that should be derogated. On one hand, some stakeholders (both competent bodies and industry representatives) asked for an alignment of the criteria and allowing up to 25% of surfactants classified with H412 in order to streamline the assessment and verification procedure. On the other hand, other stakeholders asked for the percentages to be tightened as the shares of surfactants are lower than 25% in some product groups.

A "trade-off" between trying to promote more concentrated and undiluted products, on the one hand, and lowering the mentioned values, especially for professional products, on the other hand, is evident. From the life cycle perspective, concentrated and undiluted products cause lower environmental impacts associated to transport and packaging and this should be encouraged by the EU Ecolabel. The fact remains that a majority of available surfactants is classified with H412 and this should be acknowledged.

Thus, it is proposed not to introduce a specific percentage threshold but to maintain the requirement that the final product shall not be classified, which automatically sets a maximum allowed threshold of <25% of surfactants classified with H412; above this percentage the final product would be classified in accordance with the CLP Regulations rules for mixtures. Due to the fact that majority of surfactants classified with H400 is at the same time classified with higher chronic categories, their use will be automatically excluded due to lack of derogation for those. It is considered that allowing only surfactants classified with H412 will be a limiting factor. Such a requirement aims to ensure flexibility and promote more concentrated products on the one hand, but allowing only the surfactants with lowest chronic classification.

2.10.2.1.2 Subtilisin and enzymes

A derogation request was received for an enzyme protease (subtisilin) currently used in laundry and dishwasher detergents. Amfep (Trade body association for manufacturers and formulators of enzyme products), provided supporting evidence which is summarised below.

Subtilisin hydrolyses protein, removing proteinaceous deposits and stains. It works effectively at reduced temperatures, enabling the so-called "lower temperature washing". According to available information, there seems to be no alternative ingredient or technology which would allow for the same efficacy. Other enzymes (e.g. alpha-amylase, lipase, pectatelyase) have different catalytic activities and remove other types of deposits and stains (e.g. starch, fat, pectin stains).

With regard to the prevalence on the current detergent product market, Amfep estimate that subtilisin is present in around 90% of laundry and dishwasher detergents. For industrial and institutional products the percentage is thought to be much lower (around 10%). Subtilisin use in hand dishwashing detergents and hard surface cleaning products is mentioned in literature[10], but the shares of products containing it are unknown.

It is asserted that the high penetration in consumer-oriented products is due to the very good performance at low temperature in removing protein stains of products containing the enzyme. Of the available protein-removing enzymes, subtilisin is the most prevalent. It is also claimed that a similar washing performance could only otherwise be achieved through the use of higher temperatures and/or an increased use of phosphates or phosphonates. Both of these parameters are discouraged by the EU Ecolabel and the Detergent Regulation for some product groups. The difference in market penetration for consumer and I&I markets is

[10] See for instance: "Industry Accepted Enzyme Applications in Institutional and Consumer Cleaning Products"; available online at: http://www.aboutcleaningproducts.com/wpcontent/uploads/2012/04/120627-CSPA-Safe-Application-of-Enzymes-in-Cleaning-Products.pdf, accessed December 2015.

attributed to the fact that aspects such as lower washing temperature and use of phosphates, are of more importance to one than the other.

In 2010, when subtilisin was registered under REACH, it was classified as Aquatic Acute 1 (H400) by self- classification. Regulation (EU) No 286/2011 (2nd ATP to the CLP Regulation) added new classification criteria for long-term aquatic hazards based on chronic aquatic toxicity. On the basis of the new criteria subtilisin should be classified as Aquatic Chronic 2 (H411) even though it is readily biodegradable.

In 2011, subtilisin was derogated from the criteria for Aquatic Acute hazard 1 (H400) from the relevant criteria documents for Nordic Swan and the EU Ecolabel. A written statement by Novozymes on inactivation of subtilisin was provided to the Commission as input for the justification document for derogation. Novozymes conducted a study on the degradation/inactivation of subtilisin in wastewater treatment plants and during use and transport to the sewer system. The case studies considered extreme loadings compared to 'normal' use conditions but still demonstrate that the presence of subtilisin can be reduced to below or near detection limits. The study showed that more than 99% of subtilisin is deactivated in wastewater treatment plants and that 80% of subtilisin can be assumed to be degraded/inactivated during use and transport in the sewer system.

The industry association Amfep asked for derogation for H400 and H411 for the EU Ecolabel criteria for all detergent and cleaning product groups. Nevertheless, information regarding the use of subtilisin in hard-surface cleaning product applications and its environmental advantages for that product group was very incomplete. Thus, it is proposed that the derogation for subtilisin is included for laundry and dishwasher products, both domestic and industrial & institutional ones, and for hand dishwashing detergents for a classification with H400 and H411.

Additionally, the current derogation for enzymes (as given below) is proposed to be kept for all product groups, providing the additional requirement for enzymes which shall prevent or reduce the exposure for employees and users is kept (see Section 3.10.8 for more information on the requirement for enzymes).

Enzymes*	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled H317: May cause allergic skin reaction

* Including stabilisers and other auxiliary substances in the preparations.

2.10.2.1.3 Peracetic acid and hydrogen peroxide

Bleaching action is needed during laundry washing to remove oxidative sensible stains (e.g. tea, wine, grass, coffee), which cannot be removed by surfactants alone. During the 1st AHWG meeting, a derogation request was received for peracetic acid (PAA) used as a bleaching agent. PAA has a harmonised classification with H400 - Very toxic to aquatic life, and the CLP inventory contains a self-classification through a joint submission with H410 - Very toxic to aquatic life with long lasting effects.

The following information was provided as part of the justification for the derogation request:

> *"PAA is produced industrially by the autoxidation of acetaldehyde. It also forms as the result of an equilibrium reaction between acetic acid and hydrogen peroxide, with the equilibrium constant dependent on the concentrations and conditions of reaction.*

Further, it can be generated in-situ from a powder by mixing TAED[11] and sodium percarbonate and this approach is well accepted in household Ecolabel criteria. Nevertheless the powder approach is not always possible for industrial application for several reasons:

- *sodium percarbonate and TAED generate PAA in alkaline conditions, which is not always desired for an industrial process where the pH can be acidic (e.g. rinsing step).*
- *sodium percarbonate and TAED contribute to salt level in the washing liquor and an increase of the conductivity whilst this conductivity has to be as low as possible in some washing processes.*
- *sodium percarbonate and TAED are part of a complete detergent and cannot then be dosed separately easily leading to a loss of flexibility to optimize the washing process.*
- *sodium percarbonate and TAED do not generate PAA straightaway and reaction could be incomplete depending on the reaction time, the pH, the temperature and could lead to low bleaching performances. As a consequence a straightforward available peracetic acid, already generated and with a well-established concentration is needed.*

As a consequence, I&I sector uses a stabilized peracetic acid mixture in liquid form which can be dosed in a multi-component system wherever needed. This is preferred within I&I domain because:

- *chlorine-based bleaching agents are not allowed in Ecolabel,*
- *bleaching action can be provided by hydrogen peroxide alone, it requires high temperatures and high pH which implies not only textile damage (which shorten the lifetime of the textile) but also higher energy consumption,*
- *ε-phthalimido-peroxy-hexanoic acid as alternative bleaching agent is also classified* (see information in the following derogation for PAP below).

The current derogation request is submitted for the equilibrium liquid formulation of hydrogen peroxide/peracetic acid/acetic acid/water, of which the first two compounds are subject to the risk categories {H400, H410, H412}). In this format, hydrogen peroxide may be present in the mixture from 5% to 25%, with peracetic formulations typically in the concentration range 5% to 15% in water".

Derogation could be granted based on the following net environmental benefits*:*

- use of peracetic/peroxide as a bleaching agent has net overall benefits compared to alternatives as it allows washing at a lower temperature, lower chemical loading and improved longevity of textiles due to milder chemical activity.
- peracetic acid/peroxide is never discharged in its native state directly to the environment. It is substantially degraded in chemical activity during the use phase and undergoes further degradation to harmless levels when discharged to the sewage system and subsequent wastewater treatment plant. By-products after degradation include acetic acid and water. This degradation already occurs during the washing process and a very limited amount of peracetic acid or hydrogen peroxide can be found in the wastewater and will further degrade in the wastewater.

During the revision process, it was mentioned by several stakeholders that there are currently very few IILD products that have been awarded the EU Ecolabel and this is mainly due to the lack of derogation for peracetic acid. As PAA appears to confer net environmental benefit and there was general support from the stakeholders, derogation of PAA is proposed for IILD products.

[11] TEAD = Tetraacetylethylenediamine

2.10.2.1.4 ε-phthalimido-peroxy-hexanoic acid

A derogation request for ε-phthalimido-peroxy-hexanoic acid (PAP), received following the 1st AHWG meeting, was considered in this revision process. A summary of the information provided as part of the justification for the derogation request is given below.

> *"PAP at low concentrations can be used as 'a low temperature bleaching agent in household and professional detergents. Its use contributes to savings in the energy consumption and increased lifespan of textiles. Its high activity allows a low dosage without the use of activators. PAP is used as a bleaching agent at low concentration being the recommended dosage 0,20 g/l of washing solution (0,6 g/kg laundry). In higher concentration, even at 17% PAP has also disinfecting properties, those are however excluded from the scope of the EU Ecolabel. In this situation setting a max allowed concentration is important".*

It was further explained that when used in detergents, PAP will rapidly degrade in the effluent to (phthalimido)hexanoic acid (PAC). The applicant attached two studies demonstrating this rapid degradation conducted in the 1990s (Haigh et al. 1993), (Andert 1991), the first of which shows that 97% of PAP is degraded in 1 hour from the contact of the PAP with raw sewage and activated sludge. PAC is not classified as hazardous for the environment and this substance is readily biodegradable. PAP has a harmonised classification with H400 and a self-classification by the applicant of the derogation with H412.

According to the information received, so far no non-classified substitutes which would allow washing at the same low temperatures and at low pH are available. Supplementary information and documents were provided to the project team by the applicant that contained claims from several companies that promote their products for low temperature washing and indicate savings due to bleaching with PAP. Peracetic acid in equilibrium liquid formulation with hydrogen peroxide is the second proposed to be derogated bleaching agent and it is also classified (see Section 2.10.2.1.3).

Regarding the scope of the derogation, it is found reasonable to only propose it for laundry detergents, both consumer and industrial ones. Little information was received regarding its use and the related environmental benefits for other product groups. For consumer and industrial laundry detergents, it is proposed to set a maximum limit for PAP use as a bleaching agent at 0,6 g/kg laundry.

2.10.2.1.5 NTA as an impurity in MGDA and GLDA

Nitrolo Triacetic Acid (NTA) is an impurity in the complexing agents MGDA[12] and GLDA[13], which are used in detergent products mainly in order to substitute phosphates. NTA is classified with H351 (carcinogenic cat 2) above the specific concentration of 5%.

Industry and competent bodies were contacted in order to evaluate the need for keeping the derogation for this substance. Industry stakeholders confirmed that some minor amounts of NTA are inherent to the production process of MGDA and GLDA and, although progress has been made to lower its content, it cannot be completely eliminated. Typical concentration of NTA in MGDA and GLDA is around 0,2% resulting in concentrations in the final cleaning products of below 0,10%

Due to ban on phosphates for multiple product groups, it is expected that the use of MGDA and GLDA in detergent products will increase. It is proposed to keep the current derogation but with a reduction in the concentration of NTA from 1,0% (as included in the currently valid criteria) to 0,2% weight by weight, to reflect the progress made by industry.

[12] MGDA = Methylglycindiacetic acid
[13] GLDA = Glutamic acid, N,N-bis(carboxymethyl)-tetrasodium salt

2.10.2.1.6 Fragrances

Fragrances are used to neutralise the inherent odour of certain ingredients (e.g. surfactants) and to give a distinctive smell to detergent and cleaning products. They do not enhance the cleaning properties but are considered by manufacturers as an important marketing feature of their products, differentiating them from competitors, and are very often a factor influencing the consumers' choice. Detailed information on the use of fragrances and the proposed restrictions can be found in Chapter 10.4 of the 1st Technical Report (JRC 2014).

However, fragrances can have negative environmental and health effects. They are very often classified as toxic to the aquatic environment and some fragrances are sensitizers and known triggers of allergic reactions. Due to this fact several restrictions are set on the use of fragrances in the current EU Ecolabel criteria:

- exclusion of specific fragrances in sub-criterion (a): atranol, chloroatranol, hydroxyisohexyl 3-cyclohexene carboxaldehyde (HICC) and nitromusks and polycyclic musks in sub-criteria (a),
- restriction on fragrance substances subject to the declaration requirement provided in Detergent Regulation (EC) No 684/2004 in sub-criterion (a),
- restriction on substances classified with H317: May cause allergic skin reaction and H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled (category 1A and 1B) in sub-criterion (b).

The presence of fragrances in products, their potential exclusion, and the derogation for single fragrances classified with H412 were issues with the most split views among stakeholders during the AHWG meetings and the EUEB meeting where these issues were raised.

In the feedback following the 2nd AHWG meeting, the issue of the derogation linked to fragrances was raised again. Certain competent bodies communicated that, according to the analysis of real formulations, the derogation is not needed due to the fact that fragrances, even though very often classified with H412, are frequently present in concentrations below 100 ppm per single fragrance substance. Along the criteria revision it was agreed that the evaluation of fragrances use should be conducted on a substance by substance basis.

In the "Survey of chemical compounds in consumer products" conducted by the Danish National Environmental Research Institute (Rastogi 2002), a range of consumer products (mainly dishwasher, laundry detergents and surface cleaners) was analysed from the point of view of the content of single fragrances identified by the EU Scientific Committee on Cosmetic products and Non-Food Products intended as potential contact allergens (SCCPNFP 1999). This analysis only covered a limited number of fragrances but indicated the variability and the contents of single fragrances in multiple final products.

A summary of the information on the contents of the analysed fragrances is given below for illustrative purposes (further details can be found in Table 4.1. in (Rastogi 2002)).

- in surface cleaner 1 the contents of analysed fragrances ranged between 0,0035 and 0,0134%, with only one ingredient out of nine exceeding 100 ppm,
- in surface cleaner 2 the contents ranged between 0,0062 and 0,0188% with three ingredients out of seven exceeding 100 ppm,
- in surface cleaner 3 none of the two fragrances exceeded 100 ppm in the final product,
- in multi-cleaner 1 the ranges were as follows: 0,0053 to 0,0565, with two ingredients out of 5 exceeding 100 ppm,
- in multi-cleaner 2 two ingredients out of three significantly exceeded the threshold of 100 ppm,
- in dishwashing product 1 both fragrance ingredients exceeded 100 ppm,

- in dishwashing product 2 only one out of five fragrance ingredients exceeded 100 ppm (their content ranged between 0,0003 and 0,0162%),
- in dishwashing product 3 four out of eight fragrance ingredients exceeded 100 ppm (ranges between 0,0083 and 0,0763),
- in dishwashing product 4 none of the three ingredients exceeded the threshold of 100 ppm (ranges between 0,0048 and 0,0079%),
- in detergent for wool two out of five ingredients exceeded 100 ppm (ranges between 0,0048 and 0,0185%),
- in laundry detergent 1 five out of eight fragrances exceeded 100 ppm (ranges between 0,0027 and 0,0317%),
- in laundry detergent 2 none of two fragrances exceeded 100 ppm (ranges of 0,0056 and 0,0074%),
- in laundry detergent 3 none of two fragrances exceeded 100 ppm (ranges between 0,0071 and 0,0073%),
- in laundry detergent 4 none of four fragrances exceeded 100 ppm (ranges between 0,0055 and 0,0096%),
- in laundry detergent 5 none of four fragrances exceeded 100 ppm (ranges between 0,0043 and 0,0076%).

Of course, the above information only covers a limited number of examples of formulations and concentrations of certain fragrances in detergent and cleaning products. It can be however seen that in general the concentrations of fragrances in the final products are low and there are formulations available where single substances do not exceed 100 ppm. In such concentrations, even if a substance was classified, it would pass the general criterion on hazardous substances according to its current formulation without need for derogation.

Competent bodies were requested to double-check this information with their currently licenced EU Ecolabel products to decide on the final need for derogation. The information obtained so far on fragrance mixture compositions, relevant classifications and concentrations in the final products for different product groups suggests that the concentrations used are very low and seldom exceed the allowed threshold, though this happens. Sometimes it is difficult to evaluate, as the suppliers provide ranges and not exact share of single components of the mixture.

Manufacturers of fragrances and their association were also contacted with request for more information on the contents of the fragrances used. According to the data sent by the association 90% of fragrance compounds are classified as hazardous to the environment (with either H410, H411 and H412). The limit of 100 ppm is seen as challenging and even if it is technically feasible to formulate a product which does not contain above 100 ppm per substance of classified substances, the industry claims that the reformulated products will have limited appeal to consumers and might contribute to lower uptake of the EU Ecolabel.

In the proposed version of the criterion the derogation for fragrances is not included. It will be once again discussed at the coming EUEB meeting in June 2016 in Brussels.

2.10.2.1.7 Derogations proposed to be removed

The following derogations are proposed to be removed from the currently valid criteria: derogation for surfactants classified with H411 for HDD products (as explained in the section on surfactants), derogation for optical brighteners for LD (considered unnecessary following review during the consultation process and agreed to be removed at the 2nd AHWG meeting) and derogation for preservatives in all product groups.

Stakeholder consultation was conducted regarding the need to derogate certain preservatives or specific hazard classes. According to information collected by competent bodies evaluating EU Ecolabel applications for detergent and cleaning products, preservatives are only used in some products, in particular of those with neutral pH, and in very low concentrations, mainly below 100 ppm. Moreover, several preservatives used in higher concentrations (e.g.

phenoxyethanol) are not classified. Thus, derogation for preservatives was considered not needed. The Biocides association was also directly consulted in order to identify any specific needs for derogation but no additional information was provided for further consideration by the project team.

2.10.2.1.8 Verification

As requested by the competent bodies, the section of the verification text included below, which reflects the different situations regarding the classification of a substance, will be included in the User Manual:

The following technical information related to the form(s) and physical state(s) of the ingoing substances as present in the product shall be provided to support the declaration of non-classification: (i) For substances that have not been registered under REACH and/or which do not yet have a harmonised CLP classification: Information meeting the requirements listed in Annex VII to REACH; (ii) For substances that have been registered under REACH 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 REACH; (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 CLP Regulation together with information relevant to the mixtures hazard classification according to Annex II to REACH.

2.10.3 Sub-criterion (c): Substances of Very High Concern (SVHCs)

Proposal for sub-criterion (c) Substances of Very High Concern (SVHCs)
The final product shall not contain any ingoing substances that have been identified according to the procedure described in Article 59(1) of Regulation (EU) No 1907/2006, which establishes the candidate list for substances of very high concern.
Assessment and verification The applicant shall provide a signed declaration of compliance supported by declarations from their suppliers, if appropriate, or SDS confirming the non-presence of all the candidate list substances. Reference to the latest list of substances of very high concern shall be made on the date of application.

Rationale of proposed Criterion

Similarly to sub-criterion (b), sub-criterion (c) is directly linked to the EU Ecolabel Regulation (EC) No 66/2010, which states that no substances of very high concern (SVHC) can be present in EU Ecolabel products. It also specifies that:

"*no derogation shall be given concerning substances that meet the criteria of Article 57 of Regulation (EC) No 1907/2006 (REACH) 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)*".

Article 57 defines the criteria for the inclusion of substances in Annex XIV of the REACH Regulation (in relation to their classification according to the CLP Regulation) as follows:

(a) substances meeting the criteria for classification in the hazard class carcinogenicity category 1A or 1B;

(b) substances meeting the criteria for classification in the hazard class germ cell mutagenicity category 1A or 1B;

(c) substances meeting the criteria for classification in the hazard class reproductive toxicity category 1A or 1B, adverse effects on sexual function and fertility or on development;

(d) substances which are persistent, bioaccumulative and toxic;

(e) substances which are very persistent and very bioaccumulative;

(f) substances — such as those having endocrine disrupting properties or those having persistent, bioaccumulative and toxic properties or very persistent and very bioaccumulative properties, which do not fulfil the criteria of points (d) or (e) — for which there is scientific evidence of probable serious effects to human health or the environment which give rise to an equivalent level of concern to those of other substances listed in points (a) to (e) and which are identified on a case-by-case basis in accordance with the procedure set out in Article 59.

Article 59 sets the procedure for the identification of substances referred to in Article 57. The updated list of SVHCs is available on the European Chemicals Agency website: http://echa.europa.eu/web/guest/candidate-list-table. The applicant is asked to refer to the latest version of this list at the date of application.

2.10.4 Sub-criterion (d): Fragrances

Proposal for sub-criterion (d) Fragrances*
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) available at http://www.ifraorg.org. The recommendations of the IFRA Standards concerning prohibition, restricted use and specified purity criteria for substances shall be followed by the manufacturer.
Assessment and verification The supplier or fragrance manufacturer, as appropriate, shall provide a signed declaration of compliance.

* Does not apply to IIDD products in which use of fragrances is not allowed.

Rationale of proposed Criterion

The majority of ecolabelling schemes, including the EU Ecolabel, require that fragrances used in labelled products are manufactured and handled in accordance with the code of practice of the International Fragrance Association (IFRA), which is available at http://www.ifraorg.org. This is a requirement in the currently valid criteria for all product groups and has been agreed to be kept in the revised EU Ecolabel criteria.

The IFRA Code of Practice is a self-regulating system of the industry, based on risk assessments carried out by an independent Expert Panel. It is a comprehensive document that indicates fragrance products that are deemed as safe for use by the consumer and to

the environment. It applies to the manufacture and handling of all fragrance materials, for all types of applications and contains the full set of IFRA Standards. Abiding to 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.

2.10.5 Sub-criterion (e): Preservatives

Proposal for sub-criterion (e) Preservatives
(i) The product may only include preservatives 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) The product may contain preservatives provided that they are not bio-accumulating. A preservative is considered to be not bio-accumulating 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. (iii) 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 a signed declaration of compliance supported by declarations from suppliers, if appropriate, along with the SDS of any preservative added and information on its BCF and/or log K_{ow} values. The applicant shall also provide artwork of the packaging.

Rationale of proposed Criterion

According to the Biocidal Product Regulation (BPR (EC) No 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. They are used in detergent products for preservation purposes. They prevent the product from spoiling during storage by preventing the growth of microorganism.*

There is no definition for **biocides**/**preservatives** included in the Detergents Regulation and only a reference to preservation agents and the Council Directive 76/768/EEC (the Cosmetics Directive) is made. However, Article 2 (1) 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".*

A preservative's function is to ensure that products are safe to be used by consumers over a long period of time and to maintain the appearance of the product.

Nevertheless, the use of preservatives can also be cause for concern as they are often toxic to aquatic organisms and can also produce hypersensitivity and allergies. Moreover, the combination of toxicity, poor degradability and bioaccumulation raises the potential for environmental damage. For this reason it is proposed that the use of preservatives is restricted in EU Ecolabel products.

First, as mentioned above, in accordance with the BPR, preservatives shall only be used only for preservation purposes and properly dosed for this function. This means minimal amounts shall be used and only for the most necessary reasons. Additionally, the sub-criterion requires that the preservatives used shall not be bio-accumulating. Finally, in accordance with the

common agreed approach on what the EU Ecolabel stands for, it is prohibited to claim or suggest on the packaging or by any other communication that the product has antimicrobial or disinfecting effects.

Additional restrictions on the use of preservatives can be found in the list of excluded substances in the sub-criterion (a) and refer to specific substances, which, as agreed along the revision process should not be used for the preservation purposes in the EU Ecolabel. These cover the exclusion of the following preservatives: formaldehyde and its releasers (e.g. 2-bromo-2-nitropropane-1,3-diol, 5-bromo-5-nitro-1,3-dioxane, sodium hydroxyl methyl glycinate, diazolinidyl urea), and triclosan.

2.10.6 Sub-criterion (f): Colouring agents

Proposal for sub-criterion (f) Colouring agents
Colouring agents in the product shall not be bio-accumulating. A colouring agent is considered not bio-accumulating 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. In the case of colouring agents approved for use in food, it is not necessary to submit documentation of bio-accumulation potential.
Assessment and verification The applicant shall provide a signed declaration of compliance supported by declarations from suppliers, if appropriate, along with the SDS of any colouring agent added and information on its BCF and/or log K_{ow} values or documentation to ensure that the colouring agent is approved for use in food.

Rationale of proposed Criterion

During the development of the criteria for Nordic Swan it was emphasized that the environmental properties of colorants are often very poorly documented (Swan 2013). Many of them are toxic but they tend to be used in very small quantities. In order to reduce the environmental and health related impacts of these ingredients it was agreed to exclude colouring agents that may bioaccumulate and it was agreed to add this criterion to all EU Ecolabel criteria sets related to detergents and cleaning products in order to harmonise requirements across all product groups.

2.10.7 Sub-criterion (g): Enzymes

Proposal for sub-criterion (g) Enzymes
Only enzyme encapsulates (in solid form) and enzyme liquids/slurries shall be used.
Assessment and verification The applicant shall provide a signed declaration of compliance supported by declarations from suppliers, if appropriate, along with the SDS of any enzyme added.

Rationale of proposed Criterion

The use of enzymes in detergent formulations is relatively common and brings environmental benefits as it allows better and faster removal of proteins at lower washing temperatures, often after a preliminary soaking. However, it can also cause health and environmental problems due to enzyme scattering and impurity. The latter is dealt with in Directive 2009/41/EC, while the former is addressed through this criterion. The scattering of enzymes

is reduced as long as they are in a form that cannot be inhaled by employees during the manufacturing process or by end users.

Indeed, initially enzymes used in detergent products were causing allergies and irritation to both, employees in during the manufacturing processes and end users. In order to eliminate this issue, dust-free forms of enzymes were developed and are available for detergent formulations (Krishna 2011). Liquid and slurry forms can also be safely used.

Moreover, in June 2015 the industry association AISE published a revised version of guidelines on the safe handling of enzymes (AISE 2015). These guidelines specify two main forms of enzyme products supplied to detergent manufacturers:

- Enzyme encapsulates (in solid form, for manufacture of powders or tablets),
- Enzyme liquids/slurries.

Powdered enzymes are excluded due to the higher risk of enzyme dust generation and the encapsulated ones must meet a set quality standard on "*the level of free enzyme dust present in the bulk material and/or the resistance of the encapsulate to damage within the process*".

As enzymes can be used in different detergent and cleaning products, it is proposed to include in all criteria documents the text: "*Only enzyme encapsulates (in solid form) and enzyme liquids/slurries shall be used*".

2.10.8 Sub-criterion (h) for HDD only: Corrosive properties

Proposal for sub-criterion (i) Corrosive properties	
HDD	The product shall not be classified as a 'Corrosive' (C) mixture with H314, or as a 'Skin corrosion, categories 1A, 1B, 1C' mixture in accordance with Annex I of Regulation (EC) No 1272/2008 of the European Parliament and of the Council..
	Assessment and verification The applicant shall provide the exact concentrations of all ingoing 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 H314 in accordance with CLP Regulation to the competent body, along with the product SDS.

Rationale of proposed Criterion

Corrosive properties are assigned to chemicals (mainly acids and bases) that can attack and chemically destroy exposed body tissues. The inclusion of this criterion of high relevance for hand dishwashing detergents as they come in direct, and sometimes prolonged, contact with skin.

2.10.9 Sub-criterion (removed): Micro-organisms

Detergent products containing intentionally added micro-organisms do not fall under the Detergents Regulation as stated in Question 7.9 of FAQ concerning the correct implementation of the Detergents Regulation (European Commission 2011). As the scope of the EU Ecolabel criteria for all detergent and cleaning product groups refers to the scope of the Detergents Regulation, it follows that such products are de facto excluded. .

During the 2nd AHWG meeting and in the 2nd Technical Report (JRC 2015), a proposal was made for a criterion specifically covering environmental and health issues related to micro-organisms. In light of the scope of the Detergents Regulation, no specific criterion for

products containing micro-organisms is proposed in any of the EU Ecolabel criteria at this stage. Should the scope of the Detergents Regulation change in the future, an amendment could to be introduced addressing such products.

More information on micro-organisms in detergent products can be found in 3.10.10.

2.11 CRITERION: Packaging

Rationale of proposed Criterion

Packaging is an increasingly important environmental concern as the average European citizen generates over 150 kg of packaging waste per year (Eurostat 2016). It is, nevertheless, a necessity as it greatly reduces the potential for 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 (see Section 4 of Preliminary Reports). While it is not the most important environmental impact of a detergent's life cycle, the environmental aspects linked to packaging have improvement potential and can be acted upon in the EU Ecolabel criteria.

In Europe, the Directive on Packaging and Packaging Waste (European Commission 1994) is the main policy tool that harmonises national measures concerning the management of packaging and packaging waste. It aims to prevent and reduce the impact of packaging, provide a certain level of environmental protection and help reduce obstacles for trade on the European market. It contains provisions on the prevention, reuse, recovery and recycling of packaging. The requirements on packaging proposed in this criterion go above and beyond the requirements set out in the Directive.

2.11.1 Sub-criterion: Products sold in spray bottles

Proposal for criterion (x) Products sold in spray bottles	
HSC	**(x) Products sold in spray bottles** Sprays containing propellants shall not be used. Spray bottles shall be refillable and reusable.
	Assessment and verification: The applicant shall provide a signed declaration of compliance along with relevant documentation describing or demonstrating how the spray bottles that are part of the packaging can be refilled.

Rationale of proposed sub-criterion

Based on stakeholder feedback, the current requirement for spray bottles to be sold as part of a refillable system is interpreted differently by different competent bodies, from refills simply being available on the market to requiring proof that refills are sold alongside the original product on supermarket shelves. In many cases, product manufacturers do not have enough weight to dictate to retailers how their products and refills should be sold, especially if it is a new product. In order avoid uncertainty and give more flexibility to manufacturers, it is proposed to change the requirement for spray bottles – they must be refillable, i.e. not be single-use bottles that cannot be refilled and then reused. This requirement is important as it ensures that if the end user wants to refill and reuse the bottle to minimise waste, they are able to and manufacturers do not go for a packaging design that includes anti-

tampering/child-proofing parts, which should never be needed for the types of products covered by the scope of the EU Ecolabel for hard-surface cleaning products.

2.11.2 Sub-criterion: Weight/utility ratio (WUR)

Proposal for criterion (x) Weight/utility ratio (WUR)

(x) 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:

LD

Product type	WUR
Powder laundry detergents Laundry detergents in tablets or capsules	1,2 g
Liquid/gel laundry detergents	1,4 g
Stain remover (pre-treatment only)	1,2 g

IILD

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 g	2,0 g	2,5 g
Liquids	2,0 g	2,5 g	3,0 g

DD

Product type	WUR
Dishwasher detergents	2,4 g
Rinse aids	1,5 g

IIDD

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	0,8 g	1,4 g	2,0 g
Liquids	1,0 g	1,8 g	2,5 g

HSC

Product type	WUR
Undiluted products	15 g
RTU products	150 g
RTU products sold in bottles with trigger sprays	200 g

HDD

Product type	WUR
Hand dishwashing detergent	0,6 g

Primary packaging containing more than 80 % of recycled materials is exempted from this requirement.

Assessment and verification:

The applicant shall provide the calculation of the WUR of the product. 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 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 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 product is sold as part of a lot containing refills and the EU Ecolabel shall be awarded to the lot.

The applicant shall provide a signed declaration of compliance confirming the content of recycled material, along with relevant documentation. 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.

Rationale of proposed sub-criterion

2.11.2.1 WUR calculation method

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. There are however trade-offs – reducing packaging too much can produce flimsy packaging and lead 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 the reference dosage for a detergent. This indicator is used to, on the one hand, limit the amount of packaging that is used, and on the other hand, promote the use of recycled material. The potential refillability and reuse of the packaging are also positively taken into account in the calculation of the WUR.

- WUR in the case of an HSC lot containing both RTU and undiluted products

As RTU and undiluted hard-surface cleaning products have different thresholds for the WUR, the case of single lots that contain both RTU and undiluted products was brought to the Competent Body Forum for discussion. In order to avoid confusion as to which threshold applies, RTU or undiluted, a clarification is proposed to be added to the main assessment and verification text:

> *"If a product can be found both in RTU and undiluted form and both forms are sold as part of a single lot (e.g. one bottle of RTU product and a refill bottle of undiluted product), both types of products shall meet the requirements set out in all the criteria for their respective types, with the exception of Criterion X on Packaging, where the entire lot shall meet the requirements for undiluted products."*

- ***Interpretation of Ri (refillability) and application of WUR***

The interpretation of Ri (refillability) and its calculation also received a number of comments, both during stakeholder consultation and at the CB Forum. Currently different CBs calculate and verify Ri differently, with some basing the calculation of Ri on sales data and others on the presence or not of same-size refills on the market.

The first option was proposed as the method for calculating Ri during the 2nd AHWG meeting, as explained in the 2nd Technical Report (JRC 2015), but it was met with scepticism as many stakeholders highlighted that pan-European sales data is not always available, especially in the case of a new product. The wording of the criterion is proposed to be changed to clarify that the only time Ri>1 is if the product is sold as part of a lot and the applicant is seeking to be awarded the EU Ecolabel for the whole lot. As it is also proposed to increase the WUR threshold for packaging containing trigger sprays for HSC, this calculation of Ri should not have major consequences for current EU Ecolabel licences.

To further clarify the calculation of WUR and Ri, the User Manual will contain examples such as:

(note: the values used in the examples are not real values, they will be updated with realistic values for the User Manual)

- Case 1: laundry detergent sold in 1 bottle of 3L (a)

W(a) = 300g, U(a) = 300g, D(a) = 30, R(a) = 1 (no reuse)

$$WUR = \sum((W_i + U_i)/(D_i * R_i) = \frac{(300 + 300)}{30 * 1} = 20$$

- Case 2: laundry detergent sold in lot of 1 bottle of 3L (a) and 3 refills of 1L each in flexible plastic packaging (b)

W(a) = 300g, U(a) = 300g, D(a) = 30, R(a) = 2 (1 original use + refilled once)

W(b) = 3x10g = 30g, U(b) = 30g, D(b) = 3x10 = 30, R(b) = 1 (the refills are only used once)

$$WUR = \sum((W_i + U_i)/(D_i * R_i) = \frac{(300 + 300)}{30 * 2} + \frac{(30 + 30)}{30 * 1} = 12$$

- *Case 3:* all-purpose cleaner sold in lot of 1 spray bottle of 1L (a) of RTU product and 1 500ml refill bottle of undiluted product [50 doses] (b)

W(a) = 250g, U(a) = 250g, D(a) = 1, R(a) = 51 (1 original use + 50 refills doses)

W(b) = 200g, U(b) = 200g, D(b) = 50, R(b) = 1 (no refill possible)

$$WUR = \sum((W_i + U_i)/(D_i * R_i) = \frac{(250 + 250)}{1 * 51} + \frac{(200 + 200)}{50 * 1} = 17{,}8$$

- Recycled materials in packaging

In order to promote a reduced production of waste from packaging and the circular economy, it is proposed to encourage the use of packaging from recycled sources and the easy recycling of packaging. In the current criteria, an applicant is exempt from the WUR portion of the packaging requirements if their product's packaging contains over 80% of recycled material. It is proposed to keep such an exemption. In other EU Ecolabel criteria, the thresholds for recycled or certified wood fibres requirements are often set to 70% as this corresponds to thresholds found in existing FSC and PEFC certification schemes. Nevertheless, during stakeholder consultation, competent bodies stated that the verification of recycled material is often done through balance sheets and not through third party certifications, meaning that there is no justifiable need to lower the percentage threshold for the exemption.

During the first consultation with stakeholders, it was proposed that packaging from renewable[14] and sustainable[15] sources should also be counted towards an exemption from the WUR requirement or to lower the WUR, as it is currently the case of two out of the six product groups under revision. While the use of such materials does have environmental benefits when compared to the use of non-renewable or non-sustainable materials, it has been pointed out that it does not decrease the amount of packaging material in circulation and might even increase it, moreover recycling has also been shown to be a better end-of-life scenario than landfilling or incinerating (e.g. (Villanueva 2007)). Thus, the current proposal only contains exemptions for recycled material.

[14] "Renewable sources" means sources that can replenish at a rate that is higher than that of consumption.

[15] "Sustainable sources" means sources that are gathered in a way that is respectful of the environment, economically viable and socially responsible.

2.11.2.2 Laundry detergents

Mixed feedback was received on the WUR values for laundry detergents. On the one hand, some stakeholders pointed out that rigid packages containing 20 capsules were able to fulfil the requirement, others points out that limits that are too strict might contribute to flimsy packaging or extra secondary packaging. As many other criteria for LD have been changed to align the requirements for powder and liquid (and other) laundry detergents, the possibility of doing so also in the packaging criteria was considered. Nevertheless, powder and liquid products have very different types of packaging available to them. Powder products and products in capsules/tablets are easily packaged in cardboard-based packaging which can contain a high amount of recycled material. While liquid products are more and more packaged in lighter flexible plastic packaging, it cannot as easily contain a large amount of recycled content. Thus, two different thresholds are kept – one of powder products and capsules/tablets that is equal to the current requirement for powder products (1,2 g/kg laundry) and one for liquids that is proposed to be slightly lowered (from 1,5 to 1,4 g/kg laundry) due to advances in plastic packaging technology.

2.11.2.3 Industrial and Institutional Laundry/Dishwasher Detergents

No changes are proposed to the WUR thresholds as little feedback was received on this issue due to the criteria for I&I products still being relatively new. The main feedback was that I&I products are often delivered in bulk or in packaging that is part of a take-back system put in place by the product manufacturer. To take this into account, a new specification is proposed to be added to the packaging criterion – see Section 2.11.5.

2.11.2.4 Dishwasher Detergents

In the current criteria text, 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 include the calculation of the WUR for dishwasher detergent packaging requirement as in the EU Ecolabel criteria for the other product groups.

The current limit for packaging is 2 g/wash. Considering the calculation of WUR and the fact that a minimum of 80% of recycled cardboard is required, the equivalent WUR value is 2,4 g/wash:

Current: $\frac{packaging}{\#\ doses} = 2\ g/wash$

WUR: $\frac{(packaging + (1 - recycled\ content) \cdot packaging)}{\#doses} = 2 + 0{,}2 \cdot 2 = 2{,}4\ g/wash$

No specific limits are currently provided for rinse aids. As rinse aids necessitate lower doses than dishwasher detergents, it is proposed to use the value of 1,5 g/wash, which is aligned on the value required by Nordic Swan. During consultation with stakeholders, this approach and limits received favourable feedback.

Although the requirement for 80% of recycled cardboard is kept implicitly, as shown in the calculation above, it is nevertheless proposed to put the criterion in alignment with the other EU Ecolabels and propose an exemption for packaging containing more than 80% of recycled content.

2.11.2.5 Hard-Surface Cleaning Products

The current WUR thresholds for undiluted products and products containing spray bottles were highlighted as unrealistic by multiple stakeholders.

The current WUR thresholds 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 of 750 ml or below, which is the case for many RTU products. Investigation of the issue showed that an average 750 ml bottle weighs just under 39 g and a 500 ml bottle just under 34 g. An average trigger spray weighs around 24 g (20 g for one of the lightest ones the market). If it is considered that the applicant cannot prove that the bottle equipped with a trigger spray will be reused, the WUR values are as follows:

Bottle size	Weight	Trigger spray weight	WUR
500 ml	34 g	24 g	232 g
750 ml	39 g	24 g	168 g
1000 ml	40 g	24 g	128 g

Given the proposed update to how Ri is demonstrated (Ri>1 only in the cases where a spray bottle and refill bottle are sold in a single lot), which makes it more difficult to lower the WUR value with an increased Ri, it is proposed to increase the WUR requirement for RTU products sold in bottles with trigger sprays from 150 g to 200 g.

For undiluted products, it was highlighted that products would have to have a dilution rate of 1:125 in order to be on equivalent ground with RTU products. While these types of dilution rates are commonly found for products aimed at professionals, they are extremely high for products that are aimed at the general public. Since there are advantages in terms of lower transport and packaging emissions for undiluted products, it is proposed to favour undiluted products by increasing the WUR for them. With the current proposal, a dilution rate of 1:10 is necessary for an undiluted product not to be at a disadvantage compared to an equivalent RTU product.

2.11.2.6 Hand dishwashing detergents

Mixed feedback was received on the WUR threshold for hand dishwashing, with some stakeholders claiming that it was too strict while other saying that it was too slack. The data received from a stakeholder on WUR values for products having been awarded the EU Ecolabel shows that many are well under the threshold value, with the highest being at 0,24 g/l washing water. As this data only represents a limited portion of the EU market, the WUR threshold is proposed to be only lowered by 50% to 0,6 g/l washing water. This significant decrease aims to favour more concentrated products while still ensuring that the resulting packaging is not too flimsy.

2.11.3 Sub-criterion: Design for Recycling

Proposal for criterion (x) Design for Recycling

(x) 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 27. Pumps are exempted from this requirement.

Table 27 Materials and components excluded from packaging elements

Packaging element	Excluded materials and components*
Label or sleeve	- 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 - Any other plastic materials for sleeves/labels used with PET bottle with a density > 1 - Any other plastic materials for sleeves/labels used with PP or HDPE bottle with a density < 1 - 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/cm3 in combination with a PET bottle - Closures made of metal, glass, EVA which are not easily separable from the bottle - 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, functional polyolefins, metallised and light blocking barriers

* EVA – Ethylene Vinyl Acetate, HDPE – High-density polyethylene, PET – Polyethylene terephtalate, PETG – Polyethylene terephthalate glycol-modified, PP – Polypropylene, PS – Polystyrene, PVC – Polyvinylchloride

Assessment and verification:

The applicant shall provide a signed declaration of compliance specifying the material composition of the packaging including the container, label or sleeve, adhesives, closure and barrier coating, as appropriate, along with photos or technical drawings of the primary packaging.

Rationale of proposed sub-criterion

The WUR helps promote the use of recycled materials but the EU Ecolabel criteria should also ensure that packaging is easily recyclable. The easiest to recycle is packaging made of mono-materials but that is not always possible or preferable for e.g. transport or dosing. Thus, for packaging made of different materials, a table is proposed explaining which materials should not be mixed as not to impede recycling efforts. 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 not require the marking of plastic in order to separate polymers.

During consultation, several stakeholders argued that in some cases, packaging that mixes materials listed in the table allows the use of less raw material overall. It, in turn, lowers transport emissions and incinerating/landfilling requirements, the latter being a concern in countries with low waste recycling rates and a lack of recycling facilities. Nevertheless, it was agreed that EU Ecolabel scheme should promote recycling as the best waste treatment and it is considered appropriate to set a requirement favouring the recyclability of packaging.

2.11.4 Sub-criterion: Design for dosing

Proposal for criterion (x) Design for dosing	
LD IILD DD IIDD HSC HDD	**(x) Design for dosing** A convenient dosing system (e.g. caps, capsules/tablets, spray actuations, high viscosity drops) shall be made available to the users as part of the packaging.
	Assessment and verification: The applicant shall provide a signed declaration of compliance with a description of the dosing system and its use, along with photos or technical drawings of the primary packaging.

Rationale of proposed sub-criterion

This new sub-criterion is proposed to be included in the EU Ecolabel criteria for products that are aimed at the general public. As correct dosing plays an important role in minimising the environmental impacts of a detergent product, stakeholder consolation pointed out the need to ensure that users are provided with a way of figuring out what the correct dosage is. At the start of the revision process, the correct dosage was only proposed to be addressed through the "User Information" criterion, where it was stated that the applicant shall make available a dosing system, where possible. In order to make the requirement stronger, this sub-criterion is proposed to be added. As many types of products, with many different types of packaging, are available on the market, the range of what is considered a "dosing system" is left very wide – from HDD drops to LD tablets. The User Manual will contain examples of descriptions of dosing systems that can be provided to CBs.

2.11.5 Criterion specification on packaging part of a take-back system

Proposal for criterion specification on packaging part of a take-back system	
IILD IIDD HSC	If the applicant offers bulk delivery and/or packaging that is part of a take-back system for a product, that product is exempt from Criterion XYZ (x) *[WUR]* and (x) *[Design for Recycling]*.
	Assessment and verification: The applicant shall provide a signed declaration of compliance along with relevant documentation describing or demonstrating that deliveries are made in bulk or that a take-back system has been put in place.

Rationale of proposed criterion specification

The WUR approach was developed with consumer products in mind and does not scale up for deliveries made in large barrels or other containers which are retrieved after use by the detergent product manufacturers from their clients. To reflect the state of the market and remove unnecessary burdens on I&I products, bulk deliveries and products that come in packaging that is part of a take-back system are proposed to be exempted from the WUR and Design for Recycling sub-criteria. In the case of HSC, as the scope covers both consumer and professional products, the same exemption is proposed to be included.

2.12 CRITERION: Fitness for use

Proposal for criterion 7: FITNESS FOR USE		
The product shall have a satisfactory wash/cleaning performance at the lowest temperature and dosage recommended by the manufacturer for the water hardness according to:		
LD	"EU Ecolabel protocol for testing laundry detergents" available at: http://ec.europa.eu/environment/ecolabel/documents/Performance%20Test%20Laundry%20Detergents.pdf	Section 2.12.1
	or "EU Ecolabel protocol for testing stain removers" available at: http://ec.europa.eu/environment/ecolabel/documents/Performance%20Test%20stain%20removers.pdf	Section 2.12.2
IILD	"Framework for performance testing for industrial and institutional laundry detergents" available at: Xxx	Section 2.12.4
DD	the most updated IKW standard test available at http://www.ikw.org/fileadmin/content/downloads/Haushaltspflege/HP_DishwasherA_B_e.pdf or the most updated standard EN 50242/ICE 60436 as modified in "Framework performance test for dishwasher detergents" available at: xxx	Section 2.12.6
IIDD	"Framework performance test for industrial and institutional dishwasher detergents" available at: Xxx	Section 2.12.8
HSC	"Framework for testing the performance of hard surface cleaners" available at: http://ec.europa.eu/environment/ecolabel/documents/performance_test_cleaners.pdf	Section 2.12.12
HDD	"Framework for the performance test for hand dishwashing detergents" available at: http://ec.europa.eu/environment/ecolabel/documents/performance_test.pdf	Section 2.12.10
Assessment and verification The applicant shall provide documentation demonstrating that the product has been tested under the conditions specified in the protocol/framework and that the results passed the minimum wash/cleaning performance required. The applicant shall also provide documentation demonstrating compliance with the laboratory requirements included in the relevant harmonized standards for testing and calibration laboratories, if appropriate. An equivalent test performance may be used if equivalence has been assessed and accepted by the competent body.		

Rationale of proposed Criterion

During stakeholder consultation there was a unanimous agreement on the importance of this criterion on the fitness for use. As the main purpose of a detergent or cleaner is to clean, its cleaning efficacy must be ensured for all EU Ecolabel products.

Additionally, this criterion is strongly related to the criterion on "Recommended dosage" as some environmental impacts due to under-performing products (i.e. if the user thinks that a larger dosage is needed) will be similar to those caused by overdosing.

Multiple general common points were discussed for all or most of the product groups during the revision process, as follows:

- There is a need for setting common reference products or generic formulations across the whole of Europe to ensure the same level of performance of the products in all the Member States (because the performance tests are based on comparison). Currently it seems that the reference products used in some Member States have a higher level of performance that those used in other countries across the EU, meaning the criterion is harder to pass in those countries. This is unfair and does not promote fair competition among producers.

  However, finding a unique reference product for each type of detergent or cleaner is not easy. The current criteria wording suggests that a market-leader can be used as a reference product, but there are no clear market-leader products for the whole of Europe and therefore it is difficult to identify which product fulfils this requirement. .

  Using generic formulations that correspond to an average product on supermarket shelves is another alternative. However, it is difficult to know the exact formulations of products on the market, since they change throughout the years and there is quite a difference among them (even among products falling under the same product groups). Only a limited number of generic formulations that are widely accepted could be found in the literature and these are included in the respective EU Ecolabel protocols that follow. These generic formulations include formulations for laundry detergents, dishwasher detergents, acid toilet cleaners, bathroom cleaners and hand dishwashing detergents.
  Further information about how the generic formulations were assessed can be found in Section 3.15.
- Harmonization among the criteria wording and structures was carried out as part of this revision. The description of the test methods to be used for evaluating the washing and cleaning performance of the products is proposed to be included in an external document called *"EU Ecolabel protocol for testing..." or "Framework for the test performance of EU Ecolabel...."* hosted on the EU Ecolabel website and linked with a URL in the criteria text.
  The main advantage of linking an external document in the criteria text is that it is much easier to update and modify the external document in comparison to the formal procedure necessary to update a Commission Decision.
  The inclusion of the possibility of testing products by using an equivalent test method to those proposed in the criteria wording is also proposed.
- The assessment and verification of the criteria was also revised. Information on the testing laboratory and its qualifications to conduct the tests is proposed to be added.

2.12.1 Revised EU Ecolabel protocol for testing laundry detergents

Content

Abbreviations

HDD	Heavy duty detergent	DTI	Dye transfer inhibition
CSD	Colour safe detergent	SBL	Soil ballast load
LDD	Light duty detergent	PC	Sodium percarbonate

SR	Stain remover	TAED	Tetra acetyl ethylene diamine
BDW	Basic degree of whiteness	PVP	Polyvinylrrolidone
CM	Colour maintenance	CO	Cotton
PA	Polyamide	PES	Polyester
PES/CO	Polyester/cotton	WO	Wool
SI	Silk		

0. Background

This test protocol serves as a means of proof to show compliance with the criterion "Fitness for use" of the Commission Decision xxx/EC establishing EU Ecolabel criteria for Laundry Detergents. The product shall be fit for use, meeting the needs of users.

The test is for products that fall under the scope of the product group "Laundry detergents", which includes laundry detergents and stain removers. For each of these products, a different performance test is published, as specified in the Section 2.1 "Range of application".

The intention of this performance test for laundry detergents is to show that laundry detergents achieve good washing performance according to soil and stain removal, basic degree of whiteness, colour maintenance and dye transfer inhibition criteria. The product shall meet the requirements for wash performance set out in all the criteria listed in Section 1.

1. Test criteria

- soil and stain removal (SR)
- basic degree of whiteness (BDW)
- colour maintenance (CM)
- dye transfer inhibition (DTI)

2. Materials and conditions

The test institute must be able to prove compliance with all the test conditions laid down in the following paragraphs. Documentation demonstrating compliance with all the test conditions shall be part of the test report.

2.1 Range of application:

In the context of the EU Ecolabel, this performance test can be applied to the following types of laundry detergents and stain removers:

- Heavy-duty detergent (HDD) means a detergent used of ordinary washing of white textiles at any temperature
- Colour-safe detergent (CSD) means a detergent used for ordinary washing of coloured textiles at any temperature
- Light-duty detergent (LDD) means a detergent intended for delicate fabrics
- Stain remover (SR) means a stain remover used for direct spot treatment of textiles (before washing in the machine) but do not a stain removers dosed in the washing machine.

2.2 Washing machine types:

Programmable electronic Miele household washing machines which fulfil the following requirements:

Table 28. Washing machine and wash programmes specifications

	Cotton wash program (at 30C, 20C[1], 15C[2])	Delicate program[3] (at 30C, 20C[1], 15C[2])
Duration main wash	50-70 min	30-40 min
Total program duration	100-120 min	55-65 min
Water quantity main wash	15±2 l	20±2 l
Total water quantity	55±5 l	64±5 l
Number of rinse cycles	3	3
Final spin speed	1200rpm	600rpm

[1]for cold water products

[2]most of the older machines do not offer cold water programs. Those machines which offer cold water programmes normally heat up the entering water to 21C, which can be used for products that claim to be effective at 20C. For test runs at 15C the heating elements of the washing machine have to be disconnected to prevent the heat up
[3]some newer washing machines offer an equivalent synthetic program

Fuzzy logic type control shall be disabled.

2.3 Water conditions:
Water hardness: 2,5 ± 0,2mmol $CaCO_3$/l. The Ca/Mg ratio shall be 3 ± 0,5.
Water inlet temperature: 20,0 ± 2,0C, except for those products that claim to be effective at lower temperatures. The water inlet temperature for products that claim to be effective at lower temperatures shall be 15,0 ± 2,0C, but the reference product shall be tested in this case at 20,0 ± 2,0C.
The amount of water shall be controlled along the washing process, if possible.
The water hardness and the water inlet temperature shall be reported for the test product and reference detergent.

2.4 Ballast load:
For HDD and CSD: cotton ballast load.
The base load of cotton shall consist of cotton pillowcases and cotton huckaback hand-towels conforming to the following specifications. The values are for new (unwashed) textiles.

Table 29. Ballast load for HDD and CSD

	Pillowcases	**Hand-towels**
Type	Bleached cotton 1/1 plain weave	Bleached cotton wave-huckaback
Mass per unit area	185±10 g/m^2 of finished fabric	220±10 g/m^2 of finished fabric
Warp	33±1 tex	19±1 threads/cm of 36±1 tex
Weft	363±1 tex	13±1 threads/cm of 97±1 tex
Pieces	Pieces of 1600 mm x 800 mm ± 2% folded in half and sewn along the three open edges thus forming double thickness (finished size: 800x800 mm^2) the shrinkage shall be less than 2% in a test according to ISO 6330	Length 1000 mm±50 mm Width 500 mm±30 mm

For LDD: polyester ballast load.
The base load shall consist of double knitted polyester in pieces conforming to the following specifications.

Table 30. Ballast load for LDD

	Knitted polyester fabric.
Mass	35 ± 3 g
Mass per unit area	200 ± 25 g/m^2
Pieces	30±3cm x 30±3cm, double layer sewn along all four edges

2.5 Stains set
Current AISE stain set as described in Section 2.9.c. 2 sets of stains per wash cycle (in the same batch) should be used. Mark with a water resistant pen each stain as the Figure 2. Fix the stains on the loads with a plastic staple with a gun on the load, as shown in Figure 3 and Figure 4.

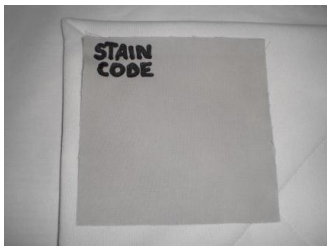


Figure 2: Marking of the stain sets

Figure 3: Marking of the stain sets

Figure 4: Marking of the stain sets

Figure 2-4. Marking of the stain sets

See Figure 5 for an example of how the stains can be fixed

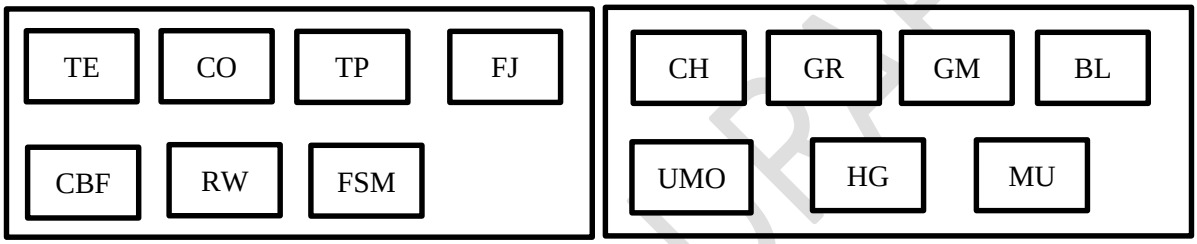


Figure 5. Fixed stains on the load (example)

Abbreviations stand for the type of soiling as indicated in Table 38.
Alternatively, the stains can be stitched together beforehand to make a full test strip. Then, this strip must be fixed on a hand towel before washing.

2.6 Stains set size
(12x12) cm^2 (standard stains and colour maintenance) and (5x5) cm^2 (hand-made).

2.7 Soil
Fix the SBL's on the loads as the stains

Table 31. SBL's use

HDD & CSD		LDD	
Stain removal & basic degree of whiteness	Colour maintenance	Stain removal & basic degree of whiteness	Colour maintenance
4 units of SBL 2004	2 units of SBL 2004	2 units of SBL 2004	2 units of SBL 2004

2.8 Dye donators and dye acceptors to determine dye transfer
2.8.1 Dye donators:
- direct black 22 (weight 0,3g)
- direct orange 39 (weight 0,3g)
- direct red 83.1 (weight 0,3g)
- acid blue 113 (weight 0,3g)

2.8.2 Dye acceptors:
- standard cotton according to DIN 53919, part 1 (size 5,5x16 cm)
- polyamide according to ISO 105 F03 1 (size 6x16 cm)

2.9 Wash loads
Each test series shall to be started with a new wash load. This load consists of:

a) Stain removal & basic degree of whiteness for HDD/CSD (power and liquid)

1. A clean all cotton ballast load for the normal cotton wash program to reach a total weight of 4,5kg (see Table 29).

Table 32. Ballast load for testing the whiteness for HDD/CSD (power and liquid)

Total load (kg)	Pillowcases	Hand-towel
4,5 kg ± 0,1kg	12 units	Until weight

2. 2 standard cotton cloths, according to ISO 2267 (size 20x20 cm)
3. 14x2 stain removal monitors included in the washes 6 to 11 (2 replicates)
4. 4 pieces of soil ballast added to all washes

The total load per wash including ballast load, SBL, cotton cloth and monitors shall be 4,5 ±0,1 kg

Table 33. Wash load for HDD and CSD (powder and liquid). Test: stain removal and basic degree for whiteness

Test		Pre-treatment			Basic degree of whiteness					Stain removal & basic degree of whiteness						Basic degree of whiteness			
cycle		-3	-2	-1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
loads	Cotton ballast load*	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Cotton cloth according to ISO 2267**	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Stain set (14 stains x 2 sets per wash, cycle 6-11)									x	x	x	x	x	x				
	Soil: 4 units SBL2004				x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

*use the same wash load during all the test

** use the same cotton cloth during all the test

b) Colour maintenance for HDD/SCD (Power and liquid)

1. A clean all cotton ballast load for the normal cotton wash program to reach a total weight of 4,5kg (see Table 29)

Table 34. Ballast load for testing colour maintenance for HDD/SCD (powder and liquid)

Total load (kg)	Pillowcases	Hand-towel
4,5 kg ±0,1kg	12 units	Until weight

2. Colour maintenance monitor
3. 2 pieces of soil ballast added to all washes

The total load per wash including ballast load, SBL, cotton cloth and monitors will be 4,5 ±0,1kg

Table 35. Wash load for HDD and CSD (powder and liquid). Test: colour maintenance

Test		Pre-treatment			Colour maintenance														
Cycle		-3	-2	-1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
loads	Cotton ballast load*	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Colour maintenance monitor See Table 36**	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Soil: 2 units SBL2004				x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

*use the same wash load during the entire test
** use the same cotton cloth during the entire test

The colour maintenance monitor sets are shown in Table 36:

Table 36. Monitor dye set

Fabric number of AISE Monitor dye set	Fabric number of AISE Dye set	Dye Class
AISE 1	1	Sulphur black
AISE 3	2	Vat green
AISE 5	3	Vat blue
AISE 8	4	Direct yellow + cationinc after-treatment (tinofix eco)
AISE 16	5	Reactive red
AISE 20	6	Reactive black (pale shade)
AISE 21	7	Reactive black (heavy shade)
AISE 22	8	Reactive orange
AISE 24	9	Reactive blue
AISE 26	10	Reactive violet
AISE 27	11	Reactive trichromatic combination
AISE 29	12	Reactive trichromatic combination
AISE 33	13	Disperse navy + heat set
AISE 39	14	Acidic red + syntan

c) Stain Removal & basic degree of whiteness for LDD

1. A clean knitted polyester load for the normal delicate wash programs to reach a total weight of 2,5kg (see Table 30)
2. 2 standard cotton clothes, according to ISO 2267, (size 20x20 cm)
3. 14x2 stain removal monitors included in the washes 6 to 11
4. 2 pieces of soil ballast added to all washes

The total load per wash including ballast load, SBL, cotton cloth and monitors will be 2,5 ± 0,1kg

Table 37 Wash loads for LDD (Powder and liquid). Test: stain removal and basic degree of whiteness

Test		Pre-treatment			Basic degree of whiteness					Stain removal & basic degree of whiteness						Basic degree of whiteness			
Cycle		-3	-2	-1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
loads	Polyester ballast load*	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Cotton cloth according to ISO 2267**	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Stain set (14 stains x 2 sets per wash, cycle 6-11). See Table 38									x	x	x	x	x	x				
	soil: 2 units SBL2004				x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

*use the same wash load during all the test

** use the same cotton cloth during all the test

The stain sets are shown in Table 38

Table 38. Set of stain

Figure 5	Stain	Standard stain			Hand-mad stains*	Stain classes**
TE	Tea		WFK 10J		WE5LTWKC	Drink/bleachable
CO	Coffee			CFT KC H109	WE5LCWKC	Drink/bleachable
RW	Red wine			CFT KC H026	WE5RWWKC	Drink/bleachable
FJ	Fruit juice			CFT CS15		Drink/bleachable
TP	Tomato puree				WE5TPWKC	Food/bleachable
CBF	Carrot baby food				WE5IACBWKC	Food/bleachable, enzymatic
FSM	French squeezy mustard				WE5FSMWKC	Food/bleachable, enzymatic,
CO	Chocolate		WFK 10Z	CFT CS44		Food/ enzymatic
GR	Grass	EMPA 164		CFT CS08		General soil /bleachable, enzymatic,
GR/ MU	Grass/mud				WE5GMWKC	Grease, oil / bleachable, enzymatic, particulate
BL	Blood				WE5DASBWKC	General soil / enzymatic
UMO	Unused motor oil	EMPA 106	WFK 10RM	CFT CS01		Grease, oil/ greasy, particulate
FF	Frying fat (hamburger grease)				Burnt beef WE5BBWKC (on white cotton)	Grease, oil/ greasy, enzymatic
MU	Make up	EMPA 143/2	WFK 10MU	CFT CS17		Cosmetics/ greasy, particulate

* (ex Warwick-Equest) All hand-made stains are also available in 2.5cm diameter. Their code has "2.5"instead of "5"

** (consumer denomination / chemical nature)

d) Color maintenance for LDD

1. A clean knitted polyester load for the normal delicate wash programs to reach a total weight of 2,5kg (see, Table 30)
2. Colour maintenance monitor
3. 2 pieces of soil ballast added to all washes

The total load per wash including ballast load, SBL, cotton cloth and monitors will be 2,5 ±0,1kg

Table 39. Wash loads for LDD (powder and liquid). Test: colour maintenance

Test		Pre-treatment			Colour maintenance														
Cycle		-3	-2	-1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
loads	Polyester ballast load*	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Colour maintenance monitor. See Table 36**	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	soil: 2 units SBL2004				x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

*use the same wash load during the whole test
** use the same cotton cloth during the whole test

2.10 Dosage

In the case of powder detergents dose detergent in the dispenser machine device, and in the case of liquid detergents dose detergent in the tumble using a plastic dosage unit.

Table 40. Detergent dosage

Type of detergent to test	**Reference detergent**				**Market detergent** According to producer recommendation.
	Basic powder	**Sodium percarbonate**	**TAED**	**PVP***	
Powder HDD	70g	12,5g	2,5g	-	Medium soil/medium hard water recommendation. The dosage needs to comply with the Ecolabel criteria
Liquid HDD	70g	-	-	-	
Powder and liquid CSD	70g	-	-	1ml	
Powder and liquid LDD	35ml				Light soil/medium hard water recommendation. The dosage needs to comply with the Ecolabel criteria

* active substance: 45%

2.11 Reference detergent

Table 41. Reference detergents

Type of detergent	**Reference detergent**
HDD	Reformulation of the IEC A* reference detergent according to IEC 60456 formulation

Ingredient	% content	Tolerance (+/-)	CAS n.
linear sodium alkyl benzene sulfonate	11,4	0,5	25155-30-0
ethoxylated fatty alcohol $C_{12/14}$ (7EO)	6,1	0,3	68439-50-9
sodium soap (tallow soap)	4,2	0,2	308075-99-2
foam inhibitor concentrate, 12% silicon on inorganic carrier)	5,1	0,3	68989-22-0
sodium aluminium silicate zeolite 4A (80% active substance)	36,7	1	70955-01-0
sodium carbonate	15,1	1	497-19-8
sodium salt of a copolymer from acrylic and maleic acid (sokalan CPS)	3,1	0,2	60472-42-6
sodium silicate (SiO_2:Na_2O = 3.3:1)	3,9	0,2	1344-09-8
carboxymethylcellulose	1,6	0,1	9004-32-4
phosphonate (25% active acid)	3,6	0,2	22042-96-2
protease	0,5	0,5	9014-01-1
sodium sulfote	rest	rest	7757-82-6

	Homogenize powder detergent, better with a sample divider or if not shake the detergent gently. The ingredients shall be mixed prior to use. The maximum storage time after mixing is 7 days Dosage powder HDD: 70g IEC A* + 12.5g sodium percarbonate + 2.5 TAED Dosage liquid HDD: 70g IEC A*
LDD	<table><tr><th>Ingredient</th><th>% technical grade</th><th>Tolerance (+/-)</th><th>CAS n.</th></tr><tr><td>fatty alcohol ethoxylate $C_{12/14}$ (EO=7)[a]</td><td>35</td><td>0,5</td><td>68213-23-0</td></tr><tr><td>low foaming fatty alcohol $C_{12/14}$ with approx 4mol EO and approx 5 moles PO (tehylenoxide/higher alkylene oxide -co-polymer)[b]</td><td>15</td><td>0,3</td><td>68439-51-0</td></tr><tr><td>sodium docecyl sulfonate [c]</td><td>7,5</td><td>0,2</td><td>68411-30-3</td></tr><tr><td>modified polycarboxylate (suitable for liquid detergents)[d]</td><td>15</td><td>0,3</td><td></td></tr><tr><td>ethanol</td><td>5</td><td>0,1</td><td>64-17-5</td></tr><tr><td>distilled water add to 100%</td><td>rest</td><td></td><td></td></tr></table>
	Manufacturing process: 1. Mix fatty alcohol ethoxylate C12/14 (EO=7) and sodium dodecyl sulfonate heating to 40C 2. When the mixture will be homogenized, add low foaming fatty alcohol ethoxylate. Mix and homogenize 3. Add ethanol 4. Add modified polycarboxylate and mix 5. Finally, add water (until 100%) The bottle shall be agitated before use Dosage, power or liquid LDD: 35ml/wash cycle
CSD	Reformulation of the IEC A* reference detergent according to IEC 60456 formulation
	Dosage: 70g IEC A* + 1ml PVP

[a] example: dehydol LT-7 (cognis)
[b] example: dehypon LS 45 (cognis)
[c] example: maranil paste A55 (cognis)
[d] example: sokalan HP 25 (BASF)

2.12 Number of cycles

A set of 15 washing machine cycles for the determination of:

- stain removal testing from cycle nr 6 to cycle nr 11- final Y-value (HDD/CSD/LDD)
- basic degree of whiteness- final Y-value (HDD/CSD/LDD)

A separate set of 15 additional cycles, run separately for colour maintenance CSD and HDD/LDD (only in the case that colour care is claimed). Grey scale determination.
Dye transfer inhibition: for CSD and HDD/LDD (only in the case that colour care is claimed), 3 replicates with new dyes donators and acceptors in each wash. Grey scale determination.

Table 42. Cycles for each type of products

	Colour claim	Stain removal	Basic degree of whiteness	Colour maintenance	DTI
HDD	Yes	✓	✓	✓	✓
	No	✓	✓	×	×
CSD		✓	✓	✓	✓
LDD	Yes	✓	✓	✓	✓
	no	✓	✓	×	×

2.13 Wash programme

Table 43 shows the different wash programmes for the Ecolabel performance test.
With low temperature and cold-water wash products, the washing performance will be determined at the lowest stated temperature at which the detergent is claimed to be effective. The reference detergent should be tested at 30C.

Table 43. Different wash programs

Test product	Temp efficient	Wash programme test product	Wash programme reference product	Water inlet temperature test product	Water inlet temperature reference product	Heating Element*
HDD/ CSD	30C	30C, normal cotton program, 1200rpm	30C, normal cotton program, 1200rpm	20,0 ± 2,0C	20,0 ± 2,0C	on
HDD/ CSD	20C	20C, normal cotton program, 1200rpm	30C, normal cotton program, 1200rpm	20,0 ± 2,0C	20,0 ± 2,0C	on
HDD/ CSD	15C	20C, normal cotton program, 1200rpm	30C, normal cotton program, 1200rpm	15,0 ± 2,0C	20,0 ± 2,0C	off
LDD	30C	30C, delicate program, 600rpm	30C, delicate program, 600rpm	20,0 ± 2,0C	20,0 ± 2,0C	on
LDD	20C	20C, delicate program, 600rpm	30C, delicate program, 600rpm	20,0 ± 2,0C	20,0 ± 2,0C	on
LDD	15C	20C, delicate program, 600rpm	30C, delicate program, 600rpm	15,0 ± 2,0C	20,0 ± 2,0C	off
SR	30C	30C, normal cotton program, 1200rpm	30C, normal cotton program, 1200rpm	20,0 ± 2,0C	20,0 ± 2,0C	on

* of the washing machine of the test product

2.14 Pre-treatment

- Pre-treatment of ballast load (cotton and polyamide) and standard cotton fabric for HDD/CSD or LDD should be done in 3 washes at 60C, normal cotton programme without pre-wash. The basic powder, optical brightener-free, of European Colour fastness Establishment (ECE) standard detergent for colour fastness (ISO 6330) of a dosage of 85g per 4,0kg load is used (95,6g of detergent per 4,5kg load)

It is recommended to dry ballast load after pre-treatment.

2.15 Drying and flattering

Drying (no tumble drying) and flattering: 2 points (150C) without steam after each wash cycle just the stains for HDD/CSD or LDD.

3. Methods

3.1 Stain removal and basic degree of whiteness

3.1.2 Test procedure

The monitors used for the evaluation of the stain removal, must be chosen from the same production lot.

The appropriate amount is stored at low temperatures (according to the suppliers' recommendations) under the exclusion of light and oxygen. The material is cut into pieces of (12x12) cm^2 and stored until ready for use in the dark and cold.

Two test monitors of each kind are used for every single wash and fixed on different huckaback towel carrier fabrics with the marked right side upwards.

An extra set of four carrier fabrics will be used for the next wash cycle in order to dry the first set in the meantime.

The prepared carrier fabric with the test swatches are evenly distributed in the wash load and washed in the respective programme parallel to washes at the same conditions using the reference detergent. After one wash they are removed from the machine. Afterwards the monitors are removed from the carrier and dried in the dark at ambient conditions lying flat on a sieve.

For stain removal, the whole procedure is repeated 6 times (for HDD/CSD and LDD washes 6 to 11).
The cotton fabrics used for the evaluation of basic degree of whiteness must be from the same production lot. The appropriate amount is stored according to the suppliers' recommendations, under exclusion of light and oxygen.
Two tests fabrics will be used for all the cycles (15 cycles).

3.1.2 Reflectance measurement
Final Y-value measurement for stain removal and basic degree of whiteness, and stain removers determination can be described as follows:

- Measuring geometry: d/8°
- D65/10° observer
- With UV-filter (420nm cut off) (the UV filter must in any case be adopted if 420 nm is outweighed by the optical brightener)
- Measuring diameter Minimum 20 mm
- Gloss without
- Calibration Measurements shall be carried out at the latest 8h after calibration with white tile and black trap

For each standard stain (12x12cm) the mean of the 48 measurements (2 samples per soil x 4 readings x 6 wash cycles) is calculated. Standard deviation ought to be calculated from 6 washes.
For each cotton cloth the mean of 8 initial measurements (before first cycle) and 8 final measurements (after 15 cycles) is calculated (2 samples x 4 readings). It is necessary to bend the cotton cloth before starting with the measurements

3.2 Colour maintenance
Defined monitor set (see

Table 36) and ballast load (see Table 29 or Table 30).
After 15 wash cycles the samples are measured using a spectrophotometer on a defined white background at four defined spots. For all products in comparison a common calibration is used. The measurement for the colour maintenance test will be done according to EN ISO 105-J01:2000 "*Textiles. Tests for colour fastness, general principles for measurement of surfaced colour*". The measurement conditions will be as follows:

- Measuring geometry: d/8°
- D65/10° observer
- With UV-filter (420 nm cut off) (the UV filter must in any case be adopted if 420 nm is outweighed by the optical brightener)
- Measuring diameter minimum 20 mm
- Gloss without
- Calibration measurements shall be carried out at the latest 8h after calibration with white tile and black trap
- Results must be reported as "grey scale" figures

The colour differences are calculated according to EN ISO 105-J03: 2009 "*Textiles. Test of colour fastness. Calculation of colour differences*". The initial state of the colour is taken as a reference for determining the colour differences, the change in colour is instrumentally assessed as described in EN ISO 105-A05:1997 "*Textiles. Test of colour fastness. Instrumental assessment of change of colour for determination of grey scale rating*". Mean and standard deviation for each dye is calculated. Mean over the complete dye set is calculated. They are based on EN 20105-A02: 1995 "*Textiles. Test of colour fastness. Grey scale for assessing change in colour*".

3.3 Dye transfer inhibition

Laundering device: lini-test

The laundering device is described in EN ISO 105:C061997 "*Textiles. Test of colour fastness. Colour fastness to domestic and commercial laundering*". A water bath containing a routable shaft which supports, radially stainless steel containers (diameter 7,5±0,5 cm, height 12,0±0,5 cm) with 525±50 ml capacity each), the bottom of the containers is being 4.5±1 cm from the centre of the shaft. The shaft/container assembly is rotated at a frequency of 40±2 rpm. The temperature of the water bath is thermostatically controlled to maintain the test solution at the prescribed temperature ±2C.

The same liquor concentration and water hardness is used as in the washing machine. The product in test (amount for 1l) is dispersed in 1l of lukewarm water using a magnetic stirrer and then rapidly heated until the liquor reaches 40C.

Dye donator (0,3g) and dye accepter (cotton and polyamide) are placed in the container (no addition of steel balls). Both textiles are not fixed to each other. The volume to give the correct liquor: fabric ratio 100:1 is added and the containers are placed in the preheated (40C) machine. Temperature raises 2C up to 60C and the wash is continued for 20 min at this temperature.

Table 44. DTI wash cycle composition (detergent: CSD (powder and liquid) /LDD*

Cycle nr	1	2	3
Composition	Cotton + polyamide + donator		

*DTI is performed only in the case that colour care is claimed by the product

Both dye acceptors (CO and PA) are used for all 4 dye donators.

After washes the textiles are removed and rinsed twice for 1 min in running warm water and then in cold running water for 10 min (same hardness as the test). Textiles are dried hanging in the air (no direct sun)

To assess the dye transfer after one wash, colour differences between the standard cotton or polyamide piece washed without and with dye donator is determined.

Results must be reported as "grey scale" figures. The colour differences are calculated according to EN ISO 105-J03: 2009 "*Textiles. Test for colour fastness. Calculation of colour differences*". Measurements are taken at two defined areas of the dye acceptor using an appropriate device as described in CIE 15:2004 "colorimetry".

The instrumental assessments on colour fastness are done according to EN ISO 105-A04:1997 "*Textiles. Method for the instrumental assessment of the degree of staining of adjacent fabrics*". They are based on EN 20105-A03:1995 "*Textiles. Test for colour fastness. Grey scale for assessing staining*". The measurement for all products to be compared is performed using one common calibration under the same conditions.

- Measuring geometry: d/8°
- D65/10° observer
- With UV-filter (420nm cut off) (the UV filter must in any case be adopted if 420 nm is outweighed by the optical brightener)
- Measuring diameter minimum 20 mm
- Gloss without
- Calibration measurements shall be carried out at the latest 8h after calibration with white tile and black trap

4. Evaluation

Each product must achieve the following results

4.1 Stain removal

Each product category (HDD, CSD, LDD) follows the same procedure

All the stains must be evaluated separately (Y-final) and referred to the reference detergent and the statistical influence (□) must be taken into account (3 failures are allowed)

□Y = (average reference - □) – (average product +□)

□Y ≤ 10 to pass the test

4.2 Basic degree of whiteness

Each product category (HDD, CSD, LDD) follows the same procedure.

ΔY = (average reference – average product)

The product passes the test if:

- For HDD powder products: ΔY < 2,0
- For HDD liquid and CSD (powder and liquid) products: ΔY < 3,0
- For LDD products: ΔY < 2,0

4.3 Colour maintenance

Each product category (CSD and HDD/LDD in the case of colour claim) follows the same procedure.

All dyes must be evaluated separately and referred to reference detergent. The colour maintenance is measured as

(Δgrey scale) = average reference – average product

Each product category must achieve: Δgrey scale ≤ 1,0 to pass the test (2 failures are allowed)

4.4 Dye transfer inhibition (DTI)

Each product category (CSD and HDD/LDD in the case of colour claim) follows the same procedure.

Each DTI data must be evaluated separately and compared to the reference detergent. The dye transfer inhibition is measured as

(Δgrey scale) = average reference – average product

Each product category must achieve: Δgrey scale ≤ 1,0 to pass the test (1 failure is allowed on maximum 1 (out of 4) dye)

See Annex 1 for a complete example.

5. Results and reporting

An excelsheet template can be found on the EU Ecolabel website to report the data of the performance test of laundry detergents. The filled in template together with the requirements of the laboratory to conduct the performance test shall be provided by the applicant.

Annex 1. Example CSD liquid

Link to the excel sheet

2.12.2 Revised EU Ecolabel protocol for testing stain removers

Content

Abbreviations

HDD	Heavy duty detergent	DTI	Dye transfer inhibition
CSD	Colour safe detergent	SBL	Soil ballast load
LDD	Light duty detergent	PC	Sodium percarbonate
SR	Stain remover	TAED	Tetra acetyl ethylene diamine
BDW	Basic degree of whiteness	PVP	Polyvinylrrolidone
CM	Colour maintenance	CO	Cotton
PA	Polyamide	PES	Polyester

PES/CO	Polyester/cotton	WO	Wool
SI	Silk		

0. Background

This test protocol serves as a proof to show compliance with the criterion "fitness for use" of the Commission Decision xxx/EC establishing EU Ecolabel criteria for Laundry detergents. The product shall be fit for use, meeting the needs of consumers.
The test is for products that fall under the scope of the product group "Laundry detergents". This means, this protocol focuses on stain removers as specified in the section 1.1 "Range of application".

1. Test criteria

The intention is that the test should show that stain removers make a positive contribution to the washing result. This is achieved by performing a wash test for the standard reference and comparing this result with the result of an equivalent wash test for the standard reference with a stain remover added. The wash test shall be passed for all soil types that the product is claimed to have an effect on. If no specific types of soils are specified on the product at least five different soils must be tested and the reasons for the choice of these soils must be stated.

2. Materials and conditions

The test institute must be able to prove the compliance with all test conditions laid down in the following paragraphs. The documentation of the compliance with all test conditions shall be part of the test report (section 5 Results and reporting).

2.1 Range of application:

In the context of the EU Ecolabel, this performance test can be applied to stain removers (SR) for clothing, for soaking as a wash enhancer or for pre-washes or other equivalent functions. Pre-treatment stain removers include stain removers used for direct spot treatment of textiles (before washing in the machine) but don't include stain removers dosed in the washing machine and stain remover dedicated to other uses besides pre-treatment.

2.2 Washing machine types:

Programmable electronic Miele household washing machines which fulfil the following requirements

Table 45. Washing machine and wash programmes specifications

	Cotton wash program (at 30C, 20C[1], 15C[2])	Delicate program[3] (at 30C, 20C[1], 15C[2])
Duration main wash	50-70 min	30-40 min
Total program duration	100-120 min	55-65 min
Water quantity main wash	15±2 l	20±2 l
Total water quantity	55±5 l	64±5 l
Number of rinse cycles	3	3
Final spin speed	1200rpm	600rpm

[1]for cold water products

[2]most of the older machines do not offer cold water programs. Those machines which offer cold water programmes normally heat up the entering water to 21C, which can be used for products that claim to be effective at 20C. For test runs at 15C the heating elements of the washing machine have to be disconnected to prevent the heat up

[3]some newer washing machines offer an equivalent synthetic program

2.3 Water conditions:

Water hardness: 2,5±0,2mmol $CaCO_3$/l. the Ca/Mg ration will be 3±0,5

Water inlet temperature: 20,0±2,0C, but not for those product that claim to be effective at lower temperature. The water inlet temperature for products which are effective at lower temperature shall be 15,0±0,2C
The amount of water shall be controlled along the washing process, if possible.
The water hardness and the water inlet temperature shall be reported for the test product and reference detergent or stain removal

2.4 Ballast load:
Cotton ballast load: the base load of cotton shall consist of cotton pillowcases and cotton huckaback hand-towels conforming to the following specifications. The values are for new (unwashed) textiles.

Table 46. Cotton Ballast load

	Pillowcases	Hand-towels
Type	Bleached cotton 1/1 plain weave	Bleached cotton wave-huckaback
Mass per unit area	185±10 g/m^2 of finished fabric	220±10 g/m^2 of finished fabric
Warp	33±1 tex	19±1 threads/cm of 36±1 tex
Weft	363±1 tex	13±1 threads/cm of 97±1 tex
Pieces	Pieces of 1600mm x 800 mm ± 2% folded in half and sewn along the three open edges thus forming double thickness (finished size: 800x800 mm^2) the shrinkage shall be less than 2% in a test according to ISO 6330	Length 1000 mm±50 mm Width 500 mm±30 mm

2.5 Stains sets
For non-specific products, the product must be tested on a minimum of five different stains.
If the product claims a specific effect, the product must be tested on a minimum of five stains of the product claim. In any case, the reason for the choice of the stains must be given to the competent body (Section 5 Results and reporting).
Two sets of stains per wash cycle (in the same batch) should be used. Mark with a water resistant pen each stain as the Figure 2. Fix the stains on the loads with a plastic staple with a gun on the load, as the example in Figure 3. Alternatively, the stains can be stitched together beforehand to make a full test strip. Then, this strip must be fixed on a hand towel before washing.

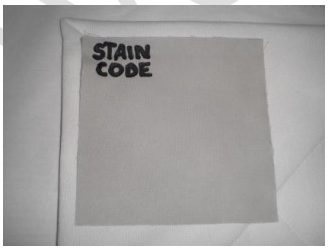


Figure 2 Marking of the stain sets

Figure 3 Marking of the stain sets

Figure 4 Marking of the stain sets

Figure 2.- 4. Marking of the stain sets

Table 47. Information on the different stains and suppliers

Stains	Fabric	Standard stains			Hand made	Type
Carbon black/ olive oil	CO	EMPA 101				Greasy
	PES/CO	EMPA 104				
	WO	EMPA 107				
Carbon black/ mineral oil	CO	EMPA 106	WFK 10M			Greasy
	PES/CO		WFK 20M			
	PES		WFK 30M			
Blood	CO	EMPA 111	WFK 10PBU WFK 90PBU		109KC	Enzymatic
	PES/CO		WFK 20PBU		109PC	
	PES		WFK 30PBU		109PE	
Aged blood	CO		WFK 10PBU WFK 90PB	CFT CS-01		Bleachable Enzymatic
	PES/CO		WFK 20PB	CFT PC-S-01		
	PES		WFK 30PB	CFT P-S-01		
Cocoa	CO	EMPA 112		CFT CS-02	038KC	Enzymatic
	PES/CO			CFT PC-S-02	038PC	
	PES			CFT P-S-02	038PE	
Red wine	CO	EMPA 114	WFK 10LIU WFK 90LIU	CFT CS-103	126KC	
	PES/CO		WFK 20LIU	CFT PC-S-103	126PC	Bleachable
	PES		WFK 30LIU	CFT P-S-103	126PE	
	WO		WFK 60LIU			
	SI		WFK 70LIU			
Aged red wine	CO	EMPA 122	WFK 10LI WFK 90LI	CFT CS-03		Bleachable
	PES/CO		WFK 20LI	CFT PC-S-03		
	PES		WFK 30LI	CFT P-S-03		
	WO		WFK 60LI			
	SI		WFK 70LIU			
More aged red wine	CO		WFK 90LI-X			Bleachable
Blood/milk/ink	CO	EMPA 116		CFT C-05		Bleachable Enzymatic
	PES/CO	EMPA 117		CFT PC-05		
	PES			CFT P-05		
Sebum/pigment	CO	EMPA 118	WFK 10D WFK 90D			Greasy
	PES/CO	EMPA 119	WFK 20D			
	PES		WFK 30D			
	WO		WFK 60D			
	SI		WFK 70D			
Lipstick	CO	EMPA 141/1 EMPA 141/2 EMPA 141/3	WFK 10LS	CFT CS-16 CFT CS-116	073KC	Greasy
	PES/CO	EMPA 141/1 EMPA 141/2 EMPA 141/3	WFK 20LS	CFT PC-S-16 CFT PC-S-116	073PC	

	PES		WFK 30LS	CFT P-S-16 CFT P-S-116	073PE	
	WO		WFK 60LS			
	SI		WFK 70LS			
Make up	CO	EMPA 141/1 EMPA 141/2 EMPA 141/3	WFK 10MU	CFT CS-17	075KC	Greasy
	PES/CO	EMPA 141/1 EMPA 141/2 EMPA 141/3	WFK 20MU	CFT PC-S-17	075PC	
	PES		WFK 30MU	CFT P-S-17	075PE	
	WO		WFK 60MU			
	SI		WFK 70MU			
Chocolate cream	CO	EMPA 160				Bleachable Enzymatic
Chocolate	CO		WFK 10Z	CFT CS-44	033KC	Enzymatic
	PES/CO		WFK 20Z	CFT PC-S-44	033PC	
	PES		WFK 30Z	CFT P-S-44	033PE	
	WO		WFK 60Z			
	SI		WFK 70Z			
Cocoa, temperature treated	CO		WFK 10MF WFK 90MF			Enzymatic
	PES/CO		WFK 20MF			
	PES		WFK 30MF			
Cocoa, not temperature treated	CO		WFK 10MFU WFK 90MFU			Enzymatic
	PES/CO		WFK 20MFU			
	PES		WFK 30MFU			
Corn starch	CO	EMPA 161	WFK 10R	CFT CS-26		Enzymatic
	PES/CO	EMPA 162	WFK 20R	CFT PC-S-26		
	PES		WFK 30R	CFT P-S-26		
Potato starch	CO			CFT CS-27		Enzymatic
	PES/CO			CFT PC-S-27		
	PES			CFT P-S-27		
Rice starch	CO			CFT CS-28		Enzymatic
	PES/CO			CFT PC-S-28		
	PES			CFT P-S-28		
Porridge	CO	EMPA 163			097KC	Bleachable Enzymatic
Grass	CO	EMPA 164		CFT CS-08	062KC	Bleachable Enzymatic
	PES/CO			CFT PC-S-08	062PC	
	PES			CFT P-S-08	062PE	
Pudding (mananase sensitive)	CO	EMPA 165				Bleachable Enzymatic
Tea	CO	EMPA 167	WFK 10J	CFT BC-03	117KC	Bleachable
	PES/CO	EMPA 168	WFK 20J	CFT PC-BC-03	117PC	
	PES		WFK 30J	CFT P-BC-03	117PE	
	SI		WFK 70J			
Tea for medium	CO			CFT BC-01		Bleachabl

and high temperature	PES/CO			CFT PC-BC-01		e
	PES					
Pigment/ lanolin	CO		WFK 10C			Greasy
	PES/CO		WFK 20C			
	PES		WFK 30C			
	WO		WFK 60C			
	SI		WFK 70C			
Pigment/ olive oil	CO		WFK 10B	125KC		Greasy
	PES/CO		WFK 20B	125PC		
	PES		WFK 30B	125PE		
	WO		WFK 60B			
	SI		WFK 70B			

2.6 Stains set size

(12x12) cm^2 (standard stains and colour maintenance and (5x5) cm^2 (hand-made).

2.7 Soil

Introduce 4 units of SBL 2004 per wash. The supplier of SBL 2004 of WFK (http;//www.testgewebe.de). Fix the SBL's on the loads as the stains.

2.8 Wash loads

Each test series has to be started with a new wash load. This load consists of:

1. A clean all cotton ballast load for the normal cotton wash program to reach a total weight of

4,5 kg (see Table 46).

Table 48. Total cotton loads (kg)

Total load (kg)	Pillowcases	Hand-towel
4,5 kg ±0,1kg	12 units	Until weight

2. 5x2 stain removal monitors (2 replicates)
3. 4 pieces of soil ballast

The total load per wash including ballast load, SBL, cotton cloth and monitors will be 4,5 kg ±0,1kg.

2.9 Pre-treatment of cotton hand towels and ballast load

3 washes at 60C, normal cotton program without pre-wash. The basic powder, optical brightener-free, of ECE standard detergent for colour fastness (ISO 6330) of a dosage of 85g per 4,0 kg load is used (95,6 g of detergent per 4,5 kg load)

It is recommended to dry ballast load after pre-treatment. A standard dryer can be used.

2.10 Reference detergent

Table 49. Reformulation of the IEC A* reference detergent according to IEC 60456 formulation

Ingredient	% content	Tolerance (+/-)	CAS n.
linear sodium alkyl benzene sulfonate	11,4	0,5	25155-30-0
ethoxylated fatty alcohol $C_{12/14}$ (7EO)	6,1	0,3	68439-50-9
sodium soap (tallow soap)	4,2	0,2	308075-99-2
foam inhibitor concentrate, 12% silicon on inorganic carrier)	5,1	0,3	68989-22-0
sodium aluminium silicate zeolite 4A (80% active substance)	36,7	1	70955-01-0
sodium carbonate	15,1	1	497-19-8
sodium salt of a copolymer from acrylic and maleic acid (sokalan CPS)	3,1	0,2	60472-42-6
sodium silicate (SiO_2:Na_2O = 3.3:1)	3,9	0,2	1344-09-8
carboxymethylcellulose	1,6	0,1	9004-32-4
phosphonate (25% active acid)	3,6	0,2	22042-96-2
protease	0,5	0,5	9014-01-1
sodium sulfote	rest	rest	7757-82-6

Homogenize powder detergent, better with a sample divider or if not shake the detergent gently. The ingredients shall be mixed prior to use. The maximum storage time after mixing is 7 days.
Dosage HDD: 70g IEC A*. Put detergent in dispenser machine device.

2.11 Test product for stain removers
The test product consists of a reference detergent with a stain remover added. The reference detergent is dosed as in 2.10. The stain remover is dosed according to the instructions provided on the product and taking onto account consumer habits.

2.12 Wash programme
30C, cotton normal program and final spin 1200rpm.

2.13 Procedures
- Pre-treatment of cotton and hand-towels and ballast load according to section 2.9.
- Washing: The following wash cycles are run, at least, 6 times with each product, using a new set of stains each time. For all the different products in

Table 50, 5x2 different stains (according to 2.5) must be tested and 2 standard cotton cloths in the same wash (according to 2.8)

Table 50. Washing conditions

Product	Conditions
Stain remover + reference detergent (IEC A* according to 60456)	In this case the stain remover following the recommendations from the producer and wash adding 70g of reference detergent (Table 49)
Reference detergent (IEC A* according to 60456)	In this case wash adding only 70g of reference detergent (Table 49)
Water	Wash without chemical products (detergents and additives)

- Drying (no tumble drying) and flattering: 2 points (150C) without steam after each wash cycle just the stains

3. Methods

3.1 Test procedure
The stain sets monitors used for the evaluation must be from the same production lot. The appropriate amount is stored at low temperatures (according to the recommendations of the

suppliers) under exclusion of light and oxygen. The material is cut into pieces of 12x2cm and stored until ready to use in the dark and cold.
Two test monitors of each kind are used for every single wash and fixed on different huckaback towel carrier fabrics with the marked right side upwards.
An extra set of four carrier fabrics will be used for the next wash cycle in order to dry the first set in the meantime.
The preparer carrier fabric with the test swatches are evenly distributed in the wash load and washed in the run programme while to washes at the same conditions using the reference detergent. After one wash they are removed from the machine. Afterwards the monitors are removed from the carrier and dried in the dark at ambient conditions lying flat on a sieve.
For the test, the whole procedure is repeated 6 times.

3.2 Reflectance measurement
Final Y-value measurement for stain removal determination can be described as follows:

- Measuring geometry: d/8°
- D65/10° observer
- With UV-filter (420 nm cut off) (the UV filter must in any case be adopted if 420 nm is outweighed by the optical brightener)
- Measuring diameter minimum 20 mm
- Gloss without
- Calibration measurements shall be carried out at the latest 8h after calibration with white tile and black trap

For each soil monitor the mean of the 48 measurements (2 samples per soil x 4 readings x 6 wash cycles) are calculated. Standard deviation ought to be calculated from 6 washes.
The mean value (Y) for the above measurements is taken for each stain test. The normalized wash result is achieved by subtracting the result for water from both the reference detergent and the test product.

4. Evaluation
The product will be considered to have a satisfactory performance, at temperature tested, if it achieves the following results:
The general normalized cleaning effect must be greater than 110% compared to the reference detergent and the result for all soil types must be better than for water.

5. Results and reporting
An excelsheet template can be found on the EU Ecolabel website to report the data of the performance test of laundry detergents. The filled in template together with the requirements of the laboratory to conduct the performance test shall be provided by the applicant.

Link of the excel sheet

2.12.3 Rationale for the proposed criterion: laundry detergents

Apart from highlighting the importance of the performance of the LDs at the recommended dosage, the discussion on the fitness for use criterion was focused on the following points (all them revised in the EU Ecolabel protocol for testing the laundry detergents).

- Ensuring a well performance of the EU Ecolabel products at low temperatures because this will reduce the environmental impacts attributed to the whole life-cycle of the LDs. At present, the testing shall be performed at maximum 30C. This temperature was considered to be suitable for claiming that LDs are fit to wash at low temperature as it is significantly lower than the average wash temperature for laundry in Europe (41C).
- This requirement should not prevent from testing the detergents at lower temperatures if the producer does claim so. However, the reference product (a

generic formulation included in the protocol) should be tested at 30C as it is not suitable for lower temperatures.

- a better and more updated reference formulation, the laundry detergents should be tested against was required by some stakeholders. It was claimed that the laundry detergents have developed and that the standard formulae such as the IEC-A* powder are out of date by now. However, the advantages of using this reference detergent overcome the drawbacks. It is a unique, well defined, international and recognized reference detergent that can be easily and homogeneity formulated across Europe. Similar rationale applies for the light duty detergent.

2.12.4 Framework for testing performance for industrial and institutional laundry detergents

Content

0. Background

This test protocol serves as a proof to show compliance with the criterion "fitness for use" of the Commission Decision xxx/EC establishing EU Ecolabel criteria for Industrial and Institutional Laundry detergents.

The test is for products that fall under the scope of the product group "industrial and institutional laundry detergents'', this means laundry detergents designed to be used by specialised personnel in industrial and institutional facilities and multi-component systems constituted of more than one component used to build up a complete detergent or a laundering program for an automatic dosing system.

The performance test can be conducted through a laboratory test or a user test. In addition to the performance test, it is the responsibility of the applicant to ensure that the detergent is safe to use on the intended use. The conditions for both types of test are described in the following sections.

1. Laboratory test

The laboratory test may be conducted by an external or internal laboratory fulfilling the requirements in point 1.1. The test must be conducted with the recommended dosage and at the lowest recommended washing temperature for the corresponding water hardness and the degree of soiling.

1.1. Laboratory requirements to conduct the testing.

The manufacturer's test laboratory can be approved to conduct testing to document effectiveness of industrial and institutional laundry detergents if the following additional requirements are met:

- it must be possible for ecolabel organizations to monitor the performance of testing
- the ecolabel 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

1.2. Testing conditions

- 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 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 4312[16]
- Examples of what may be used as wash test clothes are included in the following:
    - WFK-PEMS-5S 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 cloths of DTI (Danish technology institute) for industrial washing processes or equivalent

1.*3. Reference product*.

The reference product may be a product on the market or a generic formulation approved by the competent body. The test product must show efficiency equal to or better than the reference product.

1.4. Reporting information

The applicant shall provide the following information

- type of stains that are representative for the kind of soiled expected for the purpose the products will be marketed
- information on the recommended dosage at the corresponding water hardness and the lowest recommended washing temperature at which the product claims to be effective
- the product's ability to remove soiling from the textiles and the effectiveness of other products the detergent shall be used with (e.g. stain removers, softeners)
- information about the reference product against which the test product has been tested: lowest recommended dosage or dosage used, temperature, date of purchase and date of testing
- documentation confirming the compliance within the laboratory requirements in point 1.1

2. User test

The user test must be conducted in at least 5 test centers randomly selected and must comply with the following points

2.1. Selection of the test centers

Responses must be obtained from at least 5 test centers representing a random selection of customers.

2.2. Procedure, dosage and reference product

- The procedure and dosage must conform to the manufacturer's recommendations.
- The test period must continue for at least 4 weeks.
- The test product must be tested against a reference product. The reference product may be the product normally used by the user.
- The test product must show efficiency equal to or better than the reference product

2.3. Method

Every test centre must assess the effectiveness of the product or multi-component system, dosability, rinsing and solubility by answering questions related to the following aspects (or similar formulations):

- ability to launder lightly, moderately or heavily soiled articles to be washed

[16] ISO 4312:1989 Surface active agents - Evaluation of certain effects of laundering - Methods of analysis and test for unsoiled cotton control cloth

- 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
- assessment of the effect of the rinsing agent on drying, ironing or mangling of the articles to be washed
- assessment of the serviceability such as dosing or solubility
- how satisfied the test subject is with customer visiting arrangements

2.4. Evaluation

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'.

At least 5 test centres must submit responses. At least 80 % must rate the product as sufficiently effective or very effective on all points (see 2.3) and be satisfied or very satisfied with customer visiting arrangements.

2.5. Reporting of the information

All raw data from the test must be specified.

The test procedure must be described in detail.

The applicant shall provide the following information:
- The way the test centers were selected
- All raw data from the tests and the test procedure
- All reply forms received from the test centers and the overall result on the washing performance of the user test specified in a table or a form. The response must be rated in accordance with point 2.4
- Information on how satisfied the test centre is with visit reporting arrangements and the categories rated

Link to the excelsheet

2.12.5 Rationale for the proposed criterion: industrial and institutional laundry detergents

The validity of laboratory tests and/or consumer tests led the discussions concerning the fitness for use criterion for this type of products. Industrial and institutional laundry detergents are formulated to satisfy the specific needs of the consumers, meaning that IILD formulations can be extremely different.

This fact makes difficult to identify both generic formulations that can be representative of the products on the market or market-leader products. Initially, it was commented that most of the IILD are tested by comparing their performance to that of products generally used for the same application. As this comparison should be carried out in the centres where the products are going to be used, the user test was proposed for this purpose.

The advantages of testing the products by means of a user tests are, among others, that the products are tested under the realistic conditions, against products the clients are satisfied with and are evaluated by the future customers. All these aspects guarantee a good performance of the product. As a drawback, it was mentioned that the transparency for selecting the testers or test centers and reporting the results was not enough. This requirement was revised and a template was developed to report the methods/procedures and results in a standardized way that will be available at the EU Ecolabel website.

However, and even if the user test was considered as a proper method to test IILD products, further input suggested that laboratory testing must not be dropped out. The laboratory testing consists in testing the product under realistic conditions in a lab and comparing the results to those gotten by using a reference product or a generic formulation. The advantages associated to this type of testing is the standardization of the methods, the experience of the staff and the evaluation of not only the wash performance of the product but also the measurement of secondary effects such as bleaching effect, damage factors, ash content, greying, etc.

The revision of the laboratory test was focused on the requirements of the labs approved to conduct the testing and on the aspects needed to document the effectiveness of the products.

Eventually, both laboratory testing and user testing are proposed to be part of a protocol instead of being part of the EU Ecolabel criteria wording, due to the reasons mentioned above (easiness of modifying the protocol if needed).

2.12.6 Framework for performance testing for dishwasher detergents

Content

0. Background

This framework serves as a proof to show compliance with the criterion "fitness for use" of the Commission Decision xxx/EC establishing EU Ecolabel criteria for dishwasher detergents.
The test is for products that fall under the scope of the product group "dishwasher detergents'', this means any detergent for dishwashers or rinse aid falling under the scope of Regulation (EC) No 648/2004 on detergents which are intended to be marketed and used exclusively in household dishwashers and in automatic dishwashers for professional use, the size and usage of which is similar to that of household dishwashers.
The intention is that the product shows compliance with the criterion through any of both tests: the most updated version of the IKW or the most updated standard EN 50242/ICE 60436 modified according to point 1 of this document.

1. Modifications to EN 50242/IEC 60436

If EN 50242/ IEC 60436 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 reference product shall be always tested at 50°C, regardless the claims of the testing product.
- The machine used in the test shall be connected to cold water and must hold 12 place settings, width of 60 cm and a cleaning performance (oven drying method) in average values of 3,55 ± 0.20 as described in Annex N of the EN50242/ IEC 60436
- A weak acidic rinsing agent in accordance with the standard (formula III) shall be used
- The rinsing aid dosage shall be a setting at level 3. 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.
- The dosage of dishwasher detergent shall be as recommended by the manufacturer

- Three attempts shall be carried out at water hardness in accordance with the standard EN 50242/IEC 60436. The water hardness of sump water in the 2 heated rinses shall be ≤ 0,5 mmol/l*.
- An attempt consists of 5 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 equal to the reference detergent after the fifth wash
- Recipe for the reference detergent (Detergent B IEC 436) and rinsing agent (formula III), can be found in Annex D in the standard EN 50242/IEC 60436. The quantities (dosage used) shall be as recommended by the manufacturer of the reference product, but shall not be more than the limits included in the section 5.7 of the standard EN 50242/IEC 60436 for the detergent and section 5.8 of the standard EN 50242/IEC 60436 for the rinse aid agent

If rinse aid and salt functions are a part of a multifunctional product the effect of the claimed functions must be documented by test.

* When the machine is run on reference programme or equivalent with a clean load installed and no detergent, the values specified in this criterion shall be achieved. The hardness is to be within the prescribed range.

2. IKW test

The test performance should be carried out in accordance with the most updated version of the IKW test available at:
http://www.ikw.org/fileadmin/content/downloads/Haushaltspflege/HP_DishwasherA_B_e.pdf

3. Results and reporting

If the modified standard EN 5024 /IEC 60436 has been followed, the applicant shall provide the following information:

- Information on the recommended dosage and the lowest recommended cleaning temperature at which the product claims to be effective
- The product's ability to remove soiling from the dishes, cutlery or kitchenware and to dry the dishes
- Information about the reference product against which the test product has been tested: dosage used, temperature, date of purchase and date of testing
- Description of the standard conditions used to perform the testing
- Results of the tests performed and statistical analysis, if done.

If the most updated version of the IKW test performance protocol has been followed, the applicant shall provide the following information:

- Information on the recommended dosage and the lowest recommended cleaning temperature at which the product claims to be effective
- Description of the type of spots and preparation procedure
- The product's ability to remove soiling and dry the dishes. The effectiveness of other products the detergent shall be used with (e.g. rinse aids) shall be reported
- Information about the reference product against which the test product has been tested: lowest recommended dosage or dosage used, temperature, date of purchase and date of testing
- Description of the conditions used to perform the testing
- Results of the tests performed and statistical analysis, if done

2.12.7 Rationale for the proposed criterion: dishwasher detergents

The revision of the fitness for use criterion for dishwasher detergents included several points that are listed below:

- A decrease of the wash temperature was pointed out to be desirable to ensure that the DD cause as lower environmental impacts as possible. The current wash temperature is 50C (5C less than the temperature suggested in the testing of household dishwashers European standard EN 50242) and it was assessed that a further decrease of this temperature is no longer possible since the lowest wash temperature of the current dishwashers is around 45-50C.
- The test method was considered appropriate for testing the cleaning performance of the dishwasher detergents. The test method is based on the standard EN50242 with some modifications (the standard for testing the cleaning performance of the dishwashers in EU) and therefore no further modifications were proposed so far.
  However, this standard is currently under revision and even if no remarkable modifications are expected it can be changed in the near future. For this reason, it is proposed to shift the current Appendix II to an external document (an EU Ecolabel framework) to become easily modifiable if needed.

2.12.8 Framework for performance testing for industrial and institutional dishwasher detergents

Content

0. Background

This test protocol serves as a proof to show compliance with the criterion "fitness for use" of the Commission Decision xxx/EC establishing EU Ecolabel criteria for industrial and institutional dishwasher detergents.

The test is for products that fall under the scope of the product group "industrial and institutional dishwasher detergents", this means detergents designed to be used by specialised personal in professional dishwashers. Multi-component systems constituted of more than one component used to build-up a complete detergent shall be tested by means of this protocol too.
The intention is that the product shows compliance with the criterion through any of both tests: laboratory test or user test.

1. Laboratory test

The laboratory test may be conducted by an external or internal laboratory fulfilling the requirements in point 1.1. The test must be conducted with the recommended dosage and at the lowest recommended cleaning and drying temperature and the degree of soiling.

1.1. Laboratory requirements to conduct the testing.

The manufacturer's test laboratory can be approved to conduct testing to document effectiveness of industrial and institutional laundry detergents if the following additional requirements are met:

- it must be possible for ecolabel organizations to monitor the performance of testing
- the ecolabel 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

1.2. Testing conditions:

The test product must be tested under realistic conditions: dishes soiled with spots that are representative for the kind of soiled expected where the product will be used or marketed.

1.*3. Reference product*.

The reference product may be a product on the market or a generic formulation approved by the competent body. The test product must show efficiency equal to or better than the reference product.

1.4. Reporting information

The applicant shall provide the following information:

- type of spots that are representative for the kind of soiled expected in the areas/sectors where the products will be marketed
- information on the recommended dosage and the lowest recommended cleaning temperature at which the product claims to be effective
- the product's ability to remove soiling from the dishes, cutlery and kitchenware and to dry the dishes, cutlery and kitchenware the effectiveness of other products the detergent shall be used with (eg rinse aids)
- information about the reference product against which the test product has been tested: lowest recommended dosage or dosage used, temperature, date of purchase and date of testing
- documentation confirming the compliance within the laboratory requirements in point 1.1

Link to the excelsheet

2. User test

The user test must be conducted in at least 5 test centers or testers randomly selected and must comply with the following points

2.1. Selection of the test centers

Responses must be obtained from at least 5 test centers representing a random selection of customers.

2.2. Procedure, dosage and reference product

- The procedure and dosage must conform to the manufacturer's recommendations.
- The test period must continue for at least 4 weeks with at least 400 test cycles
- The test product must be tested against a reference product. The reference product may be the product normally used by the user.
- The test product must show efficiency equal to or better than the reference product

2.3. Method

Every test center must assess the effectiveness of the product or multi-component system by answering questions related to the following aspects (or similar formulations)

- the product's ability to remove soiling from the dishes, cutlery and kitchenware
- the product's ability to dry the dishes, cutlery and kitchenware
- the respondent's satisfaction with the agreement on customer visits

2.4. Evaluation

The response must be rated on a scale comprising at least three levels, for example, 'insufficiently effective', 'sufficiently effective', 'very effective'. With regard to how satisfied the test center is with visit reporting arrangements, the categories must be 'not satisfied', 'satisfied' and 'very satisfied'.

At least 5 test centres must submit responses. At least 80% must rate the product as sufficiently effective or very effective on all points (see 2.3) and be satisfied or very satisfied with customer visiting arrangements

2.5. Reporting of the information

All raw data from the test must be specified.

The test procedure must be described in detail.

The applicant shall provide the following information:

- The way the test centers were selected, all raw data from the tests and the test procedure
- All reply forms received from the test centers and the overall result on the cleaning and drying performance of the user test specified in a table or a form. The response must be rated in accordance with point 2.4
- Information on how satisfied the test centre is with visit reporting arrangements and the categories rated.

Link to the excelsheet

2.12.9 Rationale for the proposed criterion: industrial and institutional dishwasher detergents

See rationale for industrial and institutional laundry detergents

2.12.10 Revised: Framework for testing performance for hand dishwashing detergents

Content

0. Background

This framework serves as a proof to show compliance with the criterion "fitness for use" of the Commission Decision xxx/EC establishing EU Ecolabel criteria for hand dishwashing detergents.

The test is for products that fall under the scope of the product group "hand dishwashing detergents", this means any detergent falling under the scope of Regulation (EC) No 648/2004 of the European Parliament and of the Council on detergents which is marketed and designed to be used to wash by hand items such as glassware, crockery and kitchen utensils including cutlery, pots, pans and ovenware.

The product group shall comprise products for both private and professional use. The products shall be a mixture of chemical substances and shall not contain micro-organisms that have been deliberately added by the manufacturer.

The intention is that the product shows a comparable washing performance to that of a reference product.

1. Testing

The purpose is to compare the washing performance of the product to that of a reference product. A wide range of test procedures are allowed as long as the requirements below are a part of the test procedure. In the test, washing-up may be done by hand or, alternatively, a machine may be responsible for the mechanical work. The test may either involve the

washing up of crockery, e.g. dishes or plates, or tests that do not involve crockery may be used.

1.1. Number of repetitions

At least 5 repetitions must be performed in which the test and reference products are compared with one another.

1.2. Water parameters

- The same volume of water must be used in all repetitions. The volume must be determined in litres to one decimal point.
- The water hardness shall be 2,5±0,5mmol $CaCO_3$/l
- The water temperature must be the same for all repetitions. At the start of the test the soak temperature in the basin shall be 45±1C and kept constant throughout the test. However, a decrease of the water temperature during the test is acceptable, if it is not more than 10C and the same temperature decrease is documented for all repetitions.

1.3. Test and reference product parameters

The reference generic formulation shall be the one in Table 51.

Table 51. Reference generic formulation for testing hand dishwashing detergents

Ingredient	**% data as active content**
Sec sodium alkane sulfonate (ex 60%)	10,80
Sodium lauryl ether sulfate 2EO (ex 70%)	2,80
Cocamidopropyl betaine (ex 30%)	1,20
Kathon DG (as received)	0,08
Water	Added to 100%

- The dosage applied in the performance test is set at 2,5 ml of the reference detergent per 5 litres of water.
- The test product shall be dosed according to the 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). If no dosage recommendation is given, it shall be dosed at 4 ml per 5 litres of water for normal hand dishwashing detergent and at 2 ml per 5 litres of water for concentrated products. The detergent must be mixed and completely dissolved in the water

1.4. Soil parameters

- At least one type of soil must be used
- The same soil must be used for all repetitions
- The origin or chemical composition of the soil shall be in accordance with the test soils described in the IKW performance test:
  "*Recommendation for the quality assessment of the cleaning performance of hand dishwashing detergents*" available at www.ikw.org/fileadmin/content/downloads/Haushaltspflege/HP_EQ-Handgeschirr-e.pdf
- The soil must be prepared as described in the IKW performance test being homogenous and of even consistency. Enough soil for the entire test must be prepared in one batch.
- The quantity of soil applied to a substrate, e.g. plates or dishes, or to the washing water must be the same in all repetitions and must be weighed in grams to one decimal point.

1.5. Test procedure

- The test and reference products must be made anonymous to the person(s) performing the test.

- The elements and stages included in each repetition must be decided in advance and must be identical for each repetition.
- The temperature and relative humidity of the room must be measured and kept constant in all repetitions.
- A fixed procedure for the preparation of the plates and the application of soil (allowing sufficient time for drying), dishwashing process (manual dishwashing or removal of soil by machinery) and end point or point of saturation must be determined in advance and in line with the IKW performance test.
- At least 5 repetitions must be performed with each product: the test product and reference product.

1.6. Assessment of cleaning/washing capacity

The test must be capable of generating results that provide a measure of cleaning capacity. The cleaning capacity must be expressed in grams of soil removed per 5 litres of water before reaching the above predefined point of saturation. The point of saturation can, for example, be when the foam layer has broken up permanently on the surface of the dishwashing soak.

A positive result of a test round is obtained when the cleaning capacity is equal to or better than that of the reference product.

To consider that the test product has fulfilled the performance requirements its results must be positive in 100 % of the repetitions. If the result is less than 100 % positive, 5 new repetitions must be performed. Of these 10 repetitions, 80 % must be positive. As an alternative, the applicant may use statistical methods and demonstrate with a one-sided 95 % confidence range that the test product fulfils the performance requirements.

2. Documentation

All tests must be reported in accordance with the following points (to be part of the test repots):

- Description of how the test and reference products were made anonymous to the person(s) performing the test.
- Temperature and humidity in the test room in all repetitions.
- Description of the composition of the soil and the procedure used to ensure that the soil was of a homogenous and even consistency.
- Hardness of the water and specification of the calcium/magnesium ratio, and how it was achieved.
- Quantity of water used in the repetitions and how the water temperature requirement was fulfilled.
- Results of the weighing of the hand dishwashing detergent in each repetition and description of the procedure for dissolving the product in the water.
- Description of the procedure for adding the soil to either a substrate (e.g. plates or dishes) or to the washing water.
- Results of the weighting of soil in each repetition.
- Description of the other elements and stages in each individual repetition.
- Description of how cleaning capacity was measured and raw data from all repetitions stated in terms of cleaning capacity.
- Final results and, if applicable, a statistical evaluation of the data.

Link to the excelsheet

2.12.11 Rationale for the proposed criterion: hand dishwashing detergents

The revision of the fitness for use criterion for hand dishwashing detergents was focused on the following points:

- A generic formulation for HDD was identified and proposed to be used as reference product in the EU Ecolabel protocol for testing hand dishwashing detergents. This

generic formulation is in line with the generic formulation proposed by IKW in the "*Recommendation for the quality assessment of the cleaning performance of hand dishwashing detergents*". The proposal aims at enhancing the fair comparison of all the products across Europe and at the same time ensuring a minimum performance of the EU Ecolabel products on the market.

- The number of minimum repetitions proposed is 5. At least 5 repetitions must be performed in which the test and the reference products are compared with one another. In the opinion of most of the stakeholders, 5 repetitions are enough to statistically demonstrate the proper performance of the products without significantly increasing the testing cost.
- The testing product should success in the comparison in 100% of the repetitions. If the results are less than 100% positive further testing should be carried out (5 additional repetitions in accordance with section 7 of the framework.
- Reporting of the testing has been simplified to be in line with the data to be reported in HSCs as well as a template form for reporting the values and conditions of the testing in a standardized way.
- The water hardness level has being expressed in mmol $CaCO_3$/l to be in line with the European units.
- A clearer description of the level of soiling has been included. In this sense, the words used in the IKW protocol will be used in the user information criterion to bring harmonization among the criteria and to make sure that competent bodies and end users have the same references.

2.12.12 Framework for testing performance for hard surface cleaning products

Content

0. Background

This test protocol serves as a proof to show compliance with the criterion "fitness for use" of the Commission Decision xxx/EC establishing EU Ecolabel criteria for "Hard surface cleaners".

The test is for products that fall under the scope of the product group "Hard surface cleaners", this means cleaners designed to be used for routine cleaning of hard surfaces such as walls, floors and other fixed surfaces including those in kitchens, windows, glass and other highly polished surfaces or sanitary facilities, such as laundry rooms, toilets, bathrooms, showers.

The performance test can be conducted through a laboratory test or a user test. In addition to the performance test, it is the responsibility of the applicant to ensure that the cleaner is safe to use on the intended surface(s). The conditions for both types of test are described in the following sections

1. Laboratory test

The aim of the laboratory test is to confirm that the test product cleans equal to or better than a comparative reference product or a reference generic formulation. Products should be tested in their "undiluted form" and "ready-to-use (RTU)" form at the recommended dosage for normal soil or normal use.

1.1 Laboratory requirements

The manufacturer's test laboratory can be approved to conduct testing to document effectiveness of hard surface cleaners if the following requirements are met:

- it must be possible for ecolabel organizations to monitor the performance of testing
- the ecolabel 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

1.2. Reference product

- The test product and the reference product shall be of the same product category (designed for the same use e.g. WC cleaners, kitchen cleaners, sanitary cleaners, flooring cleaners, window cleaners, etc.) and in the same form (RTU, undiluted, concentrated, etc.).
- A marketed product can be chosen as a reference product. A marketed product is understood as a product that is available for purchasing at that time and the intended market region.
  If a marketed product is chosen as a comparative reference product (e.g. for all purpose cleaners or for window cleaners), it shall be one present in the region, where the Ecolabel product is to be marketed. The marketed product must be approved by the competent body, and the trade name must be available in the test report.
- A generic composition not included in Table 52 can be used as a comparative reference product as long as:
  - it has a composition which is representative for the products on the market
  - it is approved by the competent body and
  - the exact formulation is publicly available free of charge.

Table 52 shows several generic formulations that can be used as reference products for some cleaners:

Table 52. Generic formulations that can be used as comparative reference products.

Acidic toilet cleaners **Source: Recommendation for the quality assessment of acidic toilet cleaners (SOFW-journal 126, 11, 2000)**		
Ingredient	**% Composition**	**CAS n., specification**
Citric acid monohydrate	4	
Hostapur SAS 60	1	Hoechst
Rheozan	0,23	Rhodia
Tap water	Add 100	
Preparation and observations: Have tap water ready, slowly add Rheozan and stir with the dissolver for 30min until completely dissolved. Then add citric acid and alkane sulphonate. Do not use for at least 12h after preparation. The following physic-chemical parameters must be complied with: Viscosity: 550mPass ± 50 (Brookfield 20C, spindle, 2.20 RPM) Viscosity adjustment by adding Rheozan		
Bathroom cleaner **Source: Recommendation for the quality assessment of bathroom cleaners (SOFW-journal 129, 11, 2003)**		
Ingredient	**% Composition**	**CAS n., specification**
Citric acid monohydrate	4	
Hostapur SAS 60	1	Hoechst
Tap water	Add 100	
Preparation and observations: If bathroom cleaners are testing according to IKW-test "recommendation for the quality assessment of acidic toilet cleaners (SOFW- journal 126, 11, pp 50-56, 2000), the IKW reference cleaner for toilet cleaners can be used as a reference product, provided the pH of the reference is adjusted to 3.5		
All-purpose cleaners **Source: Recommendation for the quality assessment of all purpose cleaners (SOFW-journal 141, 6, 2015)**		
Ingredient	**% Composition**	**CAS n., example**
Sodium hydroxyde,	1,74	aqueous solution conc 45%
Alkylbenzene sulfonic acid C_{10-13}	6	ca conc 97%
Fatty acid C_{12-18}	4	Edenor K12-18
Fatty alcohol ethoxylate C_{12-18}, 7EO	4	Dehydol LT 7
Fatty alcohol ether sulfate C_{12-14}, 2EO Na salt	4,29	Texapon N70
Methylisothiazoline/benzisothiazolinone	0,1	Acticide MBR1
Water, fully demineralized	add 100	

Preparation and observations:
Take approx. ¾ of the water as a basis, add NaOH, add alkylbenzene sulfonic acid and stir for at least 15 min. Add fatty acid and stir for at least 10 min. Add fatty alcohol ethoxylate and stir for ca 10 min. Add fatty alcohol ether sulfate and stir until full dissolved.
Control pH value (target value 9.3±0.3) if this target is not met; adjust with NaOH. Add preservative, add remaining water, stir for 10 min
Appearance: yellowish, clear

1.3 Dosage
Dosages used shall be as follows:

1.3.1.a) Undiluted products:
- *Cleaning performance in undiluted form: C*leaners, even those to also be used in diluted form, e.g. for floor cleaning, should in the lab be tested in their undiluted form. This is the way they are used on tough soils in the end user facilities, and in this way also relevant discrimination between products can be obtained in the lab.
- *Clear drying and streak formation performance in diluted form:* The dosages used shall be the recommended dosage for normal soil or normal use. If no recommended dosage is stated for the reference product, the same dosage must be used for both the test product and the reference product. If a dosage interval is given, the lowest recommended dosage must be used in the test.

1.3.1.b) Ready to use products:
- *Clear drying and streak formation performance in diluted form:* The dosages used shall be the recommended dosage for normal soil or normal use. If no recommended dosage is stated for the reference product, the same dosage must be used for both the test product and the reference product. If a dosage interval is given, the lowest recommended dosage must be used in the test.

1.4. Soiling
The soil or soil mixture must be relevant for the use of the product, homogeneous and, if prepared artificially, based on well-described substances. Enough soil for the whole test must be prepared in a single batch. The test method to determine the cleaning performance of the undiluted product is based on one or several soils depending on the type of product.

Table 53. Soil mixture to be tested for each type of product

Product	Soiling mixture	Preparation of the soiling - Source
Bathroom cleaners	Particulate matter	SOFW-Journal 126,11-2000
	Descaling: lime soap and limescale	SOFW-Journal 129, 11-2003
Toilet cleaners	Particulate matter	SOFW-Journal 126,11-2000
	Descaling: limescale	SOFW-Journal 129, 11-2003
Kitchen cleaners	Fat removing	SOFW-Journal 141, 6-2015
	Particulate matter	
	Descaling: limescale	SOFW-Journal 129, 11-2003
All-purpose cleaners	Fat removing	SOFW-Journal 141, 6-2015
	Particulate matter	
Window cleaners	Light fat removing	SOFW-Journal 141, 6-2015
	Particulate matter	
	Strip-less drying	SOFW-Journal 141, 6-2015 Section 5b)

1.5. Procedure and testing requirements
The cleaning procedure must reflect realistic use conditions and can be manual or by machinery
Each product must be tested in at least 5 repetitions. The order of testing of the products shall be randomised.
The quantity of soil applied to tiles or another substrate must be the same for each tile or substrate-part, weighed in grams to one decimal point.

The test must be capable of generating results that provide a measure of the cleaning performance according to the product tested. Cleaning performance can be measured visually, photometrically (e.g. measuring reflectance), gravimetrically or by means of another relevant method. The method of measurement, including a possible scoring system, must be decided in advance.
The test product shall be diluted according to the manufacturer instructions with water 2,5mmol $CaCO_3$/l hard and homogenized. (Information about how to achieve this water hardness can be found in the preparation specification of SOFW-Journal 141, 6-2015). Cleaner dilutions may be used at most for one working day. Prior to further use they must be again homogenised.

Table 54. Procedure for testing the cleaning performance of the different products

Product	Type of testing	Procedure - Source
Bathroom cleaners (RTU)	Limescale removal properties tested on: horizontal and vertical surfaces	SOFW-Journal 129, 11-2003
Bathroom cleaners concentrated	Limescale removal properties for concentrated products	SOFW-Journal 129, 11-2003
Toilet cleaners	In-use test values	SOFW-Journal 126, 11-2000
Kitchen cleaners	Descaling: lime soap and limescale	SOFW-Journal 129, 11-2003
	Cleaning performance in concentrated use (APC)	SOFW-Journal 141, 6-2015
All-purpose cleaners	Cleaning performance in concentrated use Clear drying and streak formation	SOFW-Journal 141, 6-2015
Window cleaners	Clear drying and streak formation	

1.6 Assessment
The assessment of cleanliness must include testing and comparison of the test product with a reference product.
For the test product to be considered to have fulfilled the performance requirements its results must be positive in all the repetitions. If the result is less than all positive, 5 new repetitions must be performed. Of these 10 repetitions, a ratio (positive results/total number of results) of 0.8 must be positive. In case lime scale removal is tested for an acidic toilet cleaner versus the above specified reference product, a positive outcome of the test is associated with a performance that reaches at least a ratio of 0.7 of that of the reference cleaner.
As an alternative the applicant may use statistical methods and demonstrate with a one-sided 95% confidence range that the test product is as good as or better than the reference product.

Table 55. Procedure for testing the cleaning performance of the different products

Product	Assessment according to the procedure described in
Bathroom cleaners	SOFW-Journal 129, 11-2003
Toilet cleaners	SOFW-Journal 126, 11-2000
Kitchen cleaners	SOFW-Journal 141, 6-2015
All purpose cleaners	SOFW-Journal 141, 6-2015
Window cleaners	Test window cleaner product should be as good as a reference product and better than water of a defined hardness.
	SOFW-Journal 141, 6-2015 Section 5b)

1.7 Documentation requirements
All tests must be reported in accordance with the following points to be included in the report:
- Description of how the test and reference products were made anonymous to the person(s) performing the test.
  Description of the reference products. If any of the generic formulation provided in Table 52 is not used, justification of the choice of the reference product.
- Description of the dosages used for the testing product and the reference product

- Description of the type(s) of surface(s) and soil mixture used in the performance test and their relevance for the testing product.
- Description of the procedures for adding the soil to the substrate.
- Description of how the cleaning capacity was measured and raw data from all repetitions stated in terms of cleaning capacity.
- All raw data used in the testing and calculations and statistical evaluation of the data, if applicable.

2. User test

The aim of the user test is to show whether the test product cleans as good as or better than a comparative reference product.

2.1 Selection of the test centres or testers

For testing of non-industrial and non–institutional (non-II) products, responses must be received from a minimum of 80 persons, randomly selected in the sales region and normally using the reference product.

For testing of industrial and institutional products, responses must be received from at least 5 professional users, randomly selected in the sales region and normally using the reference.

2.2 Procedure, dosage and reference products

The test must be performed on the type(s) of surface relevant in relation to the recommendations on the label.

The test period must allow for at least five uses of the test product.

The dosages used must be the dose recommended by the manufacturer.

The test product and the reference product should be of the same product category (e.g. RTU, undiluted product, etc.) and designed for the same purpose (WC cleaners, kitchen cleaners, sanitary cleaners, flooring cleaners, window cleaners, etc.)

2.3 Testing requirements (methods and evaluation)

Effectiveness of the product under test must be assessed on the ability of the product to remove soil and leave a clean surface.

The test persons must reply to the question 'How effective do you consider the test product to be compared to the product you normally use?' or equivalent. At least three possibilities for a response must be available, e.g. 'poorer', 'as good as' and 'better'.

At least 80% of the testers or professional users must assess the product to be 'as good as' or 'better' than the reference product.

2.4 Documentation requirements

A detailed test report including information/documentation on:

- The selection of the testers or test centers
- The information provided by the testers or test centers and a summary describing how the testing was performed.
- The type of surface(s) the product was tested on.
- Calculation and documentation showing that at least 80 % of the test persons or professional users assess the product to be as good as or better than the reference product.
- For each test person or professional user, the following information must be available, e.g. in the form of answers to a questionnaire:
  - The dosage used by the test person or the professional user
  - The name of the reference product
  - A statement declaring that the product has been tested at least five times
  - The result of the comparison of the test product and the reference product.

2.12.13 Rationale for the proposed criterion: hard surface cleaning products

The revision of the fitness for use criterion for hard surface cleaners has been the more controversial one due to the heterogeneity of products included in this product group. Several aspects are of relevance:

- Hard surface cleaners include industrial and institutional products as well as products designed for fitting the needs of the consumers. Therefore, a variety of testing methods and procedures are proposed in the EU Ecolabel protocol. Briefly, there are two types of testing: the laboratory tests and the user tests. Both testings are designed for industrial and institutional cleaners and for consumer cleaners although some aspects can be different.
- The user test has been revised in terms of the number of repetitions, reference products and reporting of the results In accordance with the rationale provided by the stakeholders, five repetitions are proposed as the correct balance between the statistical significance of the results and the increasing testing costs. The higher the number of testing to be performed, the higher the accuracy of the results but the higher the testing costs to be paid for. The number of repetitions was proposed to be increased during the revision process up to 15 but stakeholders input pointed out the drawbacks of this proposal. Due to the wide diversity of products on the market that fall under the classification of hard surface cleaners, not a single reference product is proposed. The selection of the reference product should be based on the characteristics of the testing product in terms of concentration, dilution, purpose, form (liquid, power, etc), density, etc.
- The laboratory test has been revised in depth based on the information and comments received along the process by the stakeholders and the new framework for testing all-purpose cleaners released by IKW in 2015. The main changes proposed deal with:
  a) Several generic formulations have been suggested to be used as reference products for several cleaners included in this product group. Heterogeneity of the cleaners' formulation across Europe restricts this proposal to acid toilet cleaners, bathroom cleaners and all-purpose cleaners. The proposed generic formulation as well as the preparation method is included in the revised EU Ecolabel protocol.
     Any other generic formulation can also be used as reference product as long as several requirements are fulfilled: representativeness of the formulation with the products on the market, the approval of the competent body where the application will be handed in and the publication of the formulation of the generic formulation free of charge to guarantee the transparency of the process.
     For the other product types included in this product group (namely window cleaners, kitchen cleaners and all-purpose cleaners with especial applications such as floor cleaners) no generic formulation was found. For those cases, it is proposed to test the product against a product on the market in the region where the testing product is going to be sold with exactly the same characteristics in terms of dilution level (undiluted or RTU), concentration, etc.
  b) Dosage has been revised to be in line with the latest IKW performance testing released. Two different levels are proposed regarding the level of dilution of the products (undiluted or RTU).
  c) The type of soiling to be tested has been another point for discussion. Opposite feedback regarding the type of soiling the cleaners should be able to remove or clean was received. Some of the points of controversy were the particulate matter or the fat removal capability. For example, it was commented that fat removal should be tested for all type of cleaners as fat is spread in all the surfaces and that it acts as a catalysts to trap dirt. Diverse opinions considered that fat removal is not needed for those cleaners to be used in the bathroom such as bathroom cleaners or toilet cleaners. Some other issues have been proposed during the

revision such as the inclusion of burnt on soil removal in kitchen cleaners, the requirement that window cleaners should perform better than water, etc.

d) The assessment of the results has also been revised at the light of the comments received by the stakeholders. The accuracy of the positive results is now expressed per unit to be in line with the IKW protocol and avoid uncertainties about the level of ambition. Accuracy of the data has also been revised to polish the mismatches between the criteria wording and the IKW protocol wording

2.13 CRITERION: Automatic Dosing Systems

Proposal for criterion on automatic dosing systems	
IILD IIDD	For multi-component systems, the applicant shall ensure that the product is used with an automatic and controlled dosing system. In order to ensure correct dosage in the automatic dosing systems, customer visits shall be performed at all premises using the product, at least once a year during the license period, and they shall include calibration of the dosing equipment. A third party can perform these customer visits.
	Assessment and verification: The applicant shall provide a signed declaration of compliance along with a description of the content of customer visits, who is responsible for them and their, frequency.

Rationale of proposed 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 automatic and calibrated dosing system limits the risk of incorrect dosing and, thus, the risk of extra environmental impacts. Performing a system's calibration is both in the interest of the user, as overdosing has increased monetary costs and underdosing might result in bad performance of the product, and of the manufacturer, as correct dosing ensures that the product's optimal performance is achieved.

It is proposed to change the wording in order to allow for the case where an automatic dosing system is already installed at a client's premises – the applicant shall just ensure that it functions correctly with their product and is not obliged to offer the installation of the dosing system.

In the case of I&I dishwashers, a sentence has been removed that granted an exemption for installations that were too far away and could not be visited annually – stakeholder consultation yielded that this is a very rare occurrence and it is in the best interest of the client to get annual visits, even if they are locate in a remote area.

2.14 CRITERION: User information

Proposal for criterion on user information	
The detergent/cleaner shall be accompanied by instructions for proper use so as to maximise product performance and minimise waste, reduce water pollution and use of resources. These instructions shall be legible or include graphical representation or icons and include information on:	
LD	*(a) List of ingredients* In addition to the ingredients listed in accordance with Regulation (EC) No 648/2004, all ingredients present in the form of nanomaterials. The name of such ingredients shall be

	followed by the word "nano" in brackets. *(b) Dosing instructions* The applicant shall make available a convenient dosage system (e.g. caps, capsules/tablets, spray actuations, high viscosity drops) as required in Criterion xx. Dosage instructions shall include information on the recommended dosage for a standard load for at least two levels of soiling and on the impact of the water hardness on the dosing. Indications of the most prevalent water hardness in the area where the product is intended to be marketed or where this information can be found shall be provided. *(b) Resource saving measures* An indication on the primary packaging shall encourage users to use the lowest appropriate temperature the product claims effectiveness (which shall not be higher than 30C) and to wash full loads. *(c) Packaging disposal information* The primary packaging shall include information on the reuse, recycling and correct disposal of packaging. *(d) Environmental information* The following text shall appear on the primary packaging: *''All detergents have an effect on the environment. For maximum effectiveness always use the correct dose and, the lowest recommended temperature. This will minimize both energy and water consumption and reduce water pollution''.*
IILD	*(a) List of ingredients* In addition to the ingredients listed in accordance with Regulation (EC) No 648/2004,' all ingredients present in the form of nanomaterials. The name of such ingredients shall be followed by the word "nano" in brackets. *(b) Dosing instructions*. Dosage instructions shall include the dose in g or ml and/or a second or alternative metric (e.g. caps, capsules/tablets, spray actuations, high viscosity drops) and the impact of the water hardness on the dose. Indications of the most prevalent water hardness in the area where the product is intended to be marketed or where this information can be found shall be provided. *(c) Packaging disposal information* The primary packaging shall include information on the reuse, recycling and correct disposal of packaging. *(d) Environmental information* The following text shall appear on the primary packaging: *''All detergents have an effect on the environment. For maximum effectiveness always use the correct dose and, the lowest recommended temperature. This will minimize both energy and water consumption and reduce water pollution''.*
DD	*(a) List of ingredients* In addition to the ingredients listed in accordance with Regulation (EC) No 648/2004,, all ingredients present in the form of nanomaterials. The name of such ingredients shall be followed by the word "nano" in brackets. *(b) Dosing instructions* The applicant shall make available a convenient dosage system (e.g. caps, capsules/tablets, spray actuations, high viscosity drops) as required in Criterion xx. Dosage instructions shall include information on the recommended dosage for a standard load. *(c) Resource saving measures* An indication on the primary packaging shall encourage users to use the lowest appropriate temperature the product claims effectiveness and to wash full loads. *(d) Packaging disposal information* The primary packaging shall include information on the reuse, recycling and correct disposal of

	packaging. *(e) Environmental information* The following text shall appear on the primary packaging: *''All detergents have an effect on the environment. For maximum effectiveness always use the correct dose and, the lowest recommended temperature. This will minimize both energy and water consumption and reduce water pollution''.*
IIDD	*(a) List of ingredients* In addition to the ingredients listed in accordance with Regulation (EC) No 648/2004,' all ingredients present in the form of nanomaterials. The name of such ingredients shall be followed by the word "nano" in brackets. *(b) Dosing instructions*. Dosage instructions shall include the dose in g or ml and/or a second or alternative metric (e.g. caps, capsules/tablets, spray actuations, high viscosity drops) *(c) Packaging disposal information* The primary packaging shall include information on the reuse, recycling and correct disposal of packaging. *(d) Environmental information* The following text shall appear on the primary packaging: *''All detergents have an effect on the environment. For maximum effectiveness always use the correct dose and, the lowest recommended temperature. This will minimize both energy and water consumption and reduce water pollution''.*
HSC	*(a) List of ingredients* In addition to the ingredients listed in accordance with Regulation (EC) No 648/2004,, all ingredients present in the form of nanomaterials. The name of such ingredients shall be followed by the word "nano" in brackets. *(b) Dosing instructions* The applicant shall make available a convenient dosage system (e.g. caps, capsules/tablets, spray actuations, high viscosity drops) as required in Criterion xx. Dosage instructions shall include the recommended dosage for at least two levels of soiling and, if applicable, the impact of the water hardness on the dosing. If applicable, indications of the most prevalent water hardness in the area where the product is intended to be marketed or where this information can be found shall be provided. *(c) Resource saving measures* An indication on the primary packaging shall encourage users to use the lowest appropriate temperature the product claims effectiveness and the lowest appropriate amount of water *(d) Packaging disposal information* The primary packaging shall include information on the reuse, recycling and correct disposal of packaging. *(e) Environmental information* The following text shall appear on the primary packaging: *''All detergents have an effect on the environment. For maximum effectiveness always use the correct dose and, the lowest recommended temperature. This will minimize both energy and water consumption and reduce water pollution''.*
HDD	*(a) List of ingredients* In addition to the ingredients listed in accordance with Regulation (EC) No 648/2004,, all ingredients present in the form of nanomaterials. The name of such ingredients shall be followed by the word "nano" in brackets. *(b) Dosing instructions* The applicant shall make available a convenient dosage system (e.g. caps, capsules/tablets, spray actuations, high viscosity drops) as required in Criterion xx. Dosage instructions shall include the recommended dosage for at least two levels of soiling and, if applicable, the impact of the water hardness on the dosing.

	If applicable, indications of the most prevalent water hardness in the area where the product is intended to be marketed or where this information can be found shall be provided. *(c) Resource saving measures* An indication on the primary packaging shall encourage users to use the lowest appropriate temperature the product claims effectiveness and the lowest appropriate amount of water *(d) Packaging disposal information* The primary packaging shall include information on the reuse, recycling and correct disposal of packaging. *(e) Environmental information* The following text shall appear on the primary packaging: *''All detergents have an effect on the environment. For maximum effectiveness always use the correct dose and, the lowest recommended temperature. This will minimize both energy and water consumption and reduce water pollution''.*
Assessment and verification The applicant shall provide a signed declaration of compliance along with a sample of the product label.	

Rationale of proposed Criterion

Due to the nature of the EU Ecolabel, the user information criterion is one of the few that can influence the consumer behaviour during the use phase and the end-of-life of the product.

Five main points for information have been identified in this criterion to maximize the cleaning/washing results whilst minimising the environmental impacts.

a) List of ingredients

In addition to this information, it was considered that information related to nanomaterials should also be in. This aligns the EU Ecolabel criteria for detergents and cleaning products with what is required in the Cosmetic Regulation (EC) No 1223/2009 regarding the information on ingredients present in nano-form. This was requested by many stakeholders due to the uncertainties associated to the use of these types of materials and concerning their environmental performance. At least transparent information to the consumer should be given.

As the chemical composition and chemical name of nanomaterials are not different from those with a higher particle size, the chemical name should be followed by the term "nano" in brackets.

b) Dosing instructions

Even if a dosage reference criterion is included for most of the product groups restricting the maximum amount of product to be used under standard conditions, further information about the most suitable dosage depending on several conditions should be provided to the consumers.

This information aims at avoiding over-dosage that has been identified as one of the most environmental impacting user behaviours and the attributed environmental damages due to the use and discharging of excessive chemicals. As such it is important that the requirements on product dosing are clear and easy to use.

Several factors have an influence on amount of detergent or cleaner to be used. Among them are

- *the level of soiling*: as a general rule, the higher the level of soiling to be clean the higher the amount of detergent or cleaner to be used. For most of the product groups several levels of soiling are defined by the industry. The dosage instructions require in most of the products to inform about the proper dosage to be used for at least two

level of soiling. This information prevents from overdosing if the consumer conditions are equals to those included in the label and allows the consumer to estimate a proper dosage if their conditions are not depicted on the label

- *the hardness of the water*: detergent and cleaners contain surfactants that have the function of softening the water to improve the cleaning performance of the product. Therefore, the hardness of the water has an impact on the amount of detergent to be used. As a general rule, the harder the water the higher the amount of detergent needed and therefore, it is important to address the water hardness in the dosage instruction.

  The hardness of the water depends on the location. For this reason, and only in those product groups were the hardness of the water really impacts the dosage, information about the water hardness of the area where the product is intended to be market or information on where to find the water hardness of the area should be provided.

  The hardness of the water does not have an influence on the dosage of the dishwasher detergents or the industrial and institutional dishwasher detergents.
- *the number of items to be cleaned or the load* is another factor that has an impact on the dosage. Its impact is similar to the level of soiling
- *the dilution of the product:* undiluted products are more and more commonly found on the selves. Even if both concepts dilution and dosage are not exactly the same, information about the dilution ratio can be included in this section as incorrect dilution ratios can also lead to overdosing. For the undiluted products that require dilution prior to use, it is essential that it clearly states on the label or product information sheet how the product is to be diluted. This is to be emphasised in the industrial and institutional products and in those that are intended to be used in a professional sphere.

It is important to notice that requirement that promotes the availability of a dosage system for all those products intended to be used as a consumer detergent or cleaner has been included in the Packaging criteria. The type dosage system is however not specified as it is up to the manufacturer to decide which is the most cost-effective system or tool. Examples of commonly found dosage systems are caps in liquid or powder detergents such as laundry detergents, dishwasher detergents or flooring cleaners, capsules and tabs in laundry or dishwasher detergents, squirts for hard surface cleaners, etc.

(c) Resource saving measures

Even if the correct dosage can be considered a measure for saving resources, other resources are needed in the cleaning process. Among these resources are:

- *water*: most of the product groups included in this revision are used in combination with water. Information to prevent water wasting when using the product is therefore needed. Depending on the product, several advices can be given. For example, for laundry and dishwasher detergents washing full load will optimized the use of water as approximately the same amount of water is needed to wash full or half load. For hand dishwashing detergents a prevention for washing under running water can be included,
- *fossil fuel and energy sources*: the cleaning process takes place in most of the cases at medium-high temperature even if today detergents are able to perform well at lower or ambient temperature. Detergents that perform well at lower temperature are for example most of the hard surface cleaners, some laundry detergents and some hand dishwashing detergents. Therefore a recommendation for using the lowest temperature the product claims to be effective is introduced. This fact is of remarkable importance for laundry detergents which shall be able to clean at a temperature equal to or lower than 30C,
- *packaging*: the use of plastic, cardboard or other materials used for packaging shall be considered as a potential for saving resources. The reduction of packaging is

promoted through the packaging criterion while the proper disposal of these materials is addressed in the point (c) or (d) of this criterion.

This requirement is not included in the industrial and institutional products as it is supposed that professionals optimized the use of the additional resources as it reduces the costs of the services provided or because these products can be provided in bulk.

(d) Packaging disposal information

The primary packaging shall include information on the reuse, recycling and/or correct disposal of packaging. This information aims at encouraging consumers to conduct responsible actions regarding the packaging

(e) Environmental information

This text is proposed to be included due to the benefits of bringing awareness among the users of the environmental damages caused by washing and cleaning under all conditions. An effort made by the manufacturers is required to properly accommodate all the pieces of information that should be mandatory included in the detergent and cleaner labels. This piece of information was initially proposed for inclusion under a voluntary basis but it was pointed out that a voluntary basis is not suitable for a pass or fail scheme.

2.15 CRITERION: Information appearing on the EU Ecolabel

Proposal for criterion on information appearing on the EU Ecolabel	
The logo should be visible and legible. The EU Ecolabel registration/licence number shall appear on the product and it shall be legible and clearly visible. The applicant may choose to include an optional text box on the label that contains the following text:	
LD	— Harm to aquatic life is limited — Amount of hazardous substances is restricted — Tested for wash performance at 30C* * if the product was tested at 15 or 20C in Criterion 7, the applicant may change the temperature indicated accordingly.
IILD	— Harm to aquatic life is limited — Amount of hazardous substances is restricted — Tested for wash performance
DD	— Harm to aquatic life is limited — Amount of hazardous substances is restricted — Tested for cleaning performance
IIDD	— Harm to aquatic life is limited — Amount of hazardous substances is restricted — Tested for cleaning performance
HDD	— Harm to aquatic life is limited — Amount of hazardous substances is restricted — Tested for cleaning performance
HSC	— Harm to aquatic life is limited — Amount of hazardous substances is restricted — Tested for wash/cleaning performance
Assessment and verification The applicant shall provide a signed declaration of compliance along with a sample of the product label or an artwork of the packaging where the EU Ecolabel is placed.	

Rationale of proposed Criterion

Information on the label is useful for reinforcing messages that endorse the consumer's choice of this product over non-EU Ecolabel alternatives. According the article 8 (3b) of the Regulation 66/2010, for each product group, key environmental characteristics (typically three) of the EU Ecolabel product may be displayed in the optional label 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.

No major changes have been proposed for this criterion. The first part refers to the use of the logo and the license number and the second one to the information to be provided.

The sentences proposed for laundry detergents include the temperature the products were tested at.

3 TABLE OF COMMENTS AND TECHNICAL ANNEX

3.1 General introduction to the Technical Annex

This section includes the comments which were provided following the publication of the documents for the 1st and the 2nd AHWG meeting and additional summary of discussions or further technical information behind certain EU Ecolabel criteria proposed.

3.2 Article 1 – Names, scopes and definitions

3.2.1 Comments from stakeholders from the 1st and 2nd AHWG meeting

The stakeholder feedback on this section is mainly divided by product group.

Table 56 Stakeholder comments regarding the names, scopes and definitions of the different product groups

Product Group	Comment area	Stakeholder comments	IPTS analysis and further research
Comments after the 1st AHWG meeting			
LD	Name, scope	We support the change of name but it should be declared and defined in the document that also professional products that are not institutional but used professionally in machines like consumer machines, in schools and so on, can still be ecolabelled according to this criterion.	**Comments accepted.** The product group name is proposed to be reverted back to 'Laundry Detergents' for simplicity and an explanation is proposed to be added to the User Manual for the case of products that are aimed at professional who use washing machines that are similar to those used in the domestic setting.
		"Consumer" is too restrictive as this type of product can be used by a professional public in small laundrettes for example.	
		We disagree with the proposed name of the scope (Consumer laundry detergents) since the product group also covers products marketed to professional users who use domestic machines (like in a beauty salon or a kindergarten). We propose "Laundry detergents for domestic washing machines" since in this way they cover products marketed to consumers and professionals.	
		For the last sentence we prefer the wording "laundry detergent products for domestic washing machines", which is in line with our scope proposal for the current laundry products.	

		We support the proposal to use the kind of machines in the definitions of LD and DD and not "household" as small firms or tourist accommodations use machines similar to or the same as normal households. "Consumer" is too restrictive as this type of product can be used by a professional public in small laundrettes for example.	
IILD	Name	With regards to the proposed name, we would like to make the following suggestion: Industrial and institutional laundry detergents ➔ Professional laundry detergents (Although the terminology "industrial and institutional" is well known to industry, the public in general is not so familiar. At A.I.S.E. we are also in the process of changing from "Industrial & Institutional Sector" to "Professional Cleaning and Hygiene Sector".)	**Comment rejected.** In order to be consistent with the description in the Detergents Regulation, the name of the product group is proposed to be kept as Industrial and Institutional Laundry Detergents as the manufacturers and users this type of highly specialised products should be familiar with the name.
IILD	Scope	We propose to delete this type of product [stain removers]. (It is difficult to calculate CDV for a stain remover because they are often just put directly on the stain, without any dosage instruction.)	**Comment acknowledged.** This comment was left on the IILD section of TR1 but the content of the comment seems to refer to the stain removers in LD. Indeed, in the scope of I&I laundry washing, it would be impractical to use stain removers before the washing due to the large number of pieces to launder. For domestic washing, the issue of pre-treatment stain removers was raised during the previous revision to the criteria set, along with the addition of fabric softeners and in-wash stain removers. Fabric softeners and in-wash stains removers, it was argued by some Member States, create unnecessary chemical loads. For pre-treatment stain removers, a number of products was assessed and an average dosage was concluded based on the dosage recommended by the manufacturer (Ecolabelling Danemark 2011). While it is true that the user is at liberty to choose to exceed that recommended dosage, currently no data has been brought forward disputing this average dosage.
DD	Definition and scope	We think that the differentiation according to the machine type is not correct. This product group is not only for consumers. Our only license covers products intended for professional users who use a domestic dishwasher or a professional dishwasher which is similar to a domestic dishwasher. These products should still be part of the scope. The next sentence, we think that it could be defined better "automatic consumer dishwasher and in automatic dish washer for professional use", because the size and usage of them is similar in private use.	**Comments accepted.** As for LD, it is proposed to indicate in the User Manual that products aimed at professionals but that are designed for machines that are similar to those used within the domestic sphere still fall under the product group "Dishwasher Detergents". Also similarly to LD, the word "consumer" is no longer proposed as part of the name of the product group. While it is true that the cycle length can be used to differentiate between household and I&I machines (for example, I&I machines could be considered those with cycles of under 30 minutes) as is done in other ecolabelling scheme, currently it is proposed to stay with the differentiation of machine type based usage for household and I&I machines, as it is done in the

			Detergents Regulation.
IIDD	Name, definition and scope	We propose that it is amended as follows *"... are designed for use in professional dishwashers outside the domestic sphere carried out by specialized personnel using specific products*". With regards to the proposed name, we would like to make the following suggestion: Industrial and institutional dishwasher detergents ® Professional dishwasher detergents.	**Comments rejected.** Similarly to IILD and in order to be consistent with the description in the Detergents Regulation, the name of the product group is proposed to be kept as Industrial and Institutional Dishwasher Detergents as the manufacturers and users this type of highly specialised products should be familiar with the name.
APC	Name, definition and scope	Proposal "hard surface cleaning products" seems to be interesting and clearer than "cleaning products" which is very general. The JRC proposes to change the name of this product group from "All purpose cleaners and sanitary cleaners" to "Cleaning Products", which would comprise all-purpose cleaners, window cleaners and sanitary cleaners. As some product groups will neither fit into "all purpose cleaners" nor into "sanitary cleaners", we think that changing the category's name to "Cleaning Products" is adequate. Change to Hard Surface Cleaning Products	**Comments accepted.** While the proposal to change the name of the product group to "Cleaning Products" obtained general support, the stakeholder proposal to add clarification by adopting the name "Hard Surface Cleaning Products" is on point. This latter name will be taken to the 2nd AHWG.
		We are of the opinion that renaming the product group into the term "Cleaning products" as this is too general. The terms "routine" or "routine cleaning" shall be included as we don't award a variety of special products which are used only seldom or in case of special soiling. To distinguish it from the other product groups which are used in machines the term "Cleaning agent" might be more suitable but this is a question to native speakers. If "cleaning agent" doesn't include hand dishwashing detergents, fine. If not, the term "hard surfaces" might be needed as well. Another term needed could be "manual".	**Comment partially accepted.** As stated above, the name of the product group will be proposed to be changed to "Hard Surface Cleaning Products" as to be more specific as to which types of products are covered. In order to limit the length of the name of the product group, "routine" is not proposed to be included but the term is proposed to be more explicitly defined in the scope (in alignment with the EU Ecolabel for Cleaning Services). Nevertheless, the term routine will remain in the definition of the product group.
APC	Definition	We think that "Kitchen cleaners" should be included under "all-purpose cleaners" and not under "Sanitary cleaners". We ask that kitchen cleaners shall be comprised in the group of all purpose cleaners as they are much more similar to them than to sanitary cleaners.	**Comments accepted.** The new scope proposal includes "kitchen cleaners" under the all-purpose cleaners section in order to reflect that their formulations are close.

ALL	Scope	If the product no longer has to be a mix of ingredients, what would the implications be? Which products for hand dishwashing would fall into the scope due to this change? We are not sure that single ingredient products like vinegar should be part of the scope. Which other products next to spirit vinegar could be included if the product no longer has to be a mixture? Can the EU Ecolabel criteria distinguish these products as part of the top 10-20% on the market? In Belgium, cleaning vinegar is not commonly found. People use normal spirit vinegar for cleaning (not sold as a cleaning product). Would a spirit vinegar with for example a perfume added that corresponds to the EU Ecolabel criteria be better than the normal spirit vinegar that is used today? Will there be an environmental benefit by ecolabeling them? We would only want to expand the scope if a real environmental gain can be achieved.	**Comments accepted.** As no preparatory studies for the EU Ecolabel have been done on formulations that only include a single substance and the criteria set does not allow to differentiate between two chemically identical substances that were obtained through different manufacturing means, it is proposed to keep single substance products outside the scope. To the best knowledge of the JRC-IPTS, no single substances hand dishwashing detergents exist on the market. For household cleaning, single substance products such as rubbing alcohol might be used.
APC	Scope	I don't understand because the cleaning product group is only used for indoor, we think that the windows cleaning and degrease are used in a garden furniture, windows outdoor, etc.	**Comment rejected.** Further rationale has been added to the TR explaining that currently only the impacts of indoor cleaning have been studied (LCA, etc.) and possibly products that are used outdoors would have other impacts (e.g. higher VOCs)
APC	Concentration	(in response to: "Should undiluted sanitary cleaners and windows cleaners be included in this product category?") Yes, we think that undiluted product or concentrated products are better for environment than ready to use.	**Comment acknowledged.**
APC	Scope	BEUC and EEB support the exclusion of wipes as proposed by the JRC. These products are unsustainable per se as they are only used once and therefore produce a considerable amount of avoidable waste. Therefore they should not be able to obtain the Ecolabel. We would like a clear exclusion from the scope of toilet and urinal blocks since they don't clean the toilet or urinal effectively.	**Comments accepted.** Along with wipes, toilet and urinal blocks are proposed to be listed in the product group definition as these types of products have been discussed at the CB Forum and have been agreed to be excluded.
APC	Scope	We support and highly ask that undiluted products, in particular undiluted hand dishwashing detergents, sanitary cleaners and glass cleaners shall be included. This is especially important for professional products, sold most of the times undiluted which is environmentally preferable. They are often diluted by automatic	**Comment accepted.** Undiluted window cleaners and sanitary cleaners are proposed to be explicitly covered in the product group.

		dosing systems which are preferable as well as dosage is done in a much more exact way than if it is done manually.	
LD / DD / APC	Product type (scope?)	Severe health risks can occur when children or babies (or animals) get access to laundry capsules. Mandatory measures have been voted in October 2014 and will come into force in 2015 but it hasn't been proven yet that these measures will really decrease the number of accidents. The EU Ecolabel should take additional measures to reduce the number of accidents even further or we could ban this type of product based on the precautionary principle until it becomes clear that the measures that have been taken have proven to be effective (retrospective study will be done by the Commission to verify is the measures that will soon come into force are effective or not). Alternatives like liquids sold in bottles or tablets are common on the market and don't have so many accidents. Or as a minimum we could set a stricter criterion on the film by doubling the requirements for the film so it will only dissolve in water after 60 seconds. We don't see an environmental benefit of these products, they have a lot of packaging (soon they can no longer be sold in bags due to safety reasons and will always have to be sold in boxes) and they cannot be dosed very precisely because the dosage is 1 capsule (only very dirty, hard water you need to add 2). You cannot adjust the dosage if you have a large washing machine or a small one, since the recommendations are made for a standard load of 4,5kg. This criterion is not only applicable to laundry detergents, also dishwashing detergents can be found in capsules. Even others like APC are coming on the market.	**Comment rejected.** While the safety of consumers is very important, health and safety issues are not the primary concern of the EU Ecolabel scheme and thus the scope is not proposed to be limited to products that are not sold in capsules as these are becoming more and more present on many markets (more information in the Preliminary Report for Laundry Detergents). While it is true that the dosage cannot be easily adjusted, many consumers prefer these types of products as they cannot overdose easily as with products that must be poured or scooped. In terms of environmental impacts, soluble films are considered as being part of the formulation and must respect the same environmental criteria as the product itself.
Comments after the 2nd AHWG meeting			
LD	Scope (fabric softeners)	It should be explicitly stated that fabric softeners should not be included in the scope of laundry detergents. Fabric softeners do not have any cleaning properties and are not needed in the washing process. In addition, they may have a high level of ecotoxicity to aquatic organisms and they are poorly biodegradable. Besides, it remains difficult to differentiate the formulations of the existing products and to identify the best environmentally performing formulation.	**Comment accepted.** The final paragraph of the scope is proposed to include the explicit exclusion of fabric softeners along with the other types of products excluded.

		It should be more explicit from the text that fabric softeners are not included/allowed. Specify in the last paragraph, as it is done for other products. It may lead to different interpretations by the Competent Bodies.	
LD	Scope (washing temperature)	In criteria 8 b the producer shall recommend a washing temperature of no more than 30 C. For clarity is should be established that this product group is for products which will function at 30 C or less.	**Comment acknowledged.** All the products are tested at 30C or lower and it is stated that the manufacturer shall indicate that the product is effective at 30C or lower on the label based on the proposal for the criterion on User Information. The scope does not go into the specific properties of the laundry detergents covered as claimed by the manufacturer, such as the ability to be effective at 30C or lower, and therefore it is not proposed to extend the scope in such a manner.
IILD	Assessment and verification ()	It should be clearly stated how the different components of the multi-component systems should comply with the requirements. It should be clearly indicated that each component should be assessed separately or that the multi-component system should be considered and assessed like a laundry detergent. In both cases we recommend to set strict requirements to prevent any chemical risks occurring from the product. Like previously mentioned, fabric softeners should also not be automatically included.	**Comments accepted.** Along with the clarification as to what types of components can be included in a multi-component system, an indication is proposed to be added that multi-component systems shall be tested as a whole. Further indications are proposed to be reserved for the User Manual.
IILD/IIDD		I would like to have specified in the scope that multicomponent products have to apply as a whole and that the separate components can't have the EU Ecolabel separately. And it should be clear how a multicomponent should be labelled (see FAQ CB forum first question see annex interpretation German CB), this could be added to the user manual. Suggested text: "Products that are part of a multicomponent system have to be labelled as a whole."	
HDD	Scope	Can you specify if bottles, nipples/teats etc. are included in this scope (babies)?	**Comment accepted.** After review of the discussions and conclusion at CB Forum level, the items mentioned in the comment appear to be within the scope of the HDD product group. There is no specific category for baby products within this product group and there are no specific requirements (unlike in e.g. Rinse-off Cosmetics) but nothing in the wording of the scope disallows them from being washed with a hand dishwashing detergent that has been awarded the EU Ecolabel. Nevertheless, a slight wording change is proposed with "items such as" and it is proposed to add a longer list in the User Manual of possible items that are covered.
HSC	Wording	"At least monthly" might lead to misinterpretation and is simply	**Comment accepted.** In alignment with Indoor Cleaning Services, the word

		not needed, therefore delete it here.	"routine" is kept but not defined further. The type of soils that are supposed to be dealt with for each type of product is further covered in the Fitness for Use criterion.
HSC	RTU products	Ready-to-use (RTU) product should be completely restricted from All-Purpose Cleaners (APC) product group, in alignment with the Blue Angel and the Austrian ecolabel scheme. As these RTU products are not necessary for all-purpose cleaners and there is no environmental benefits compared to concentrated APC, BEUC and the EEB rather recommend using concentrated products instead of RTU products.	**Comments partially accepted.** A very limited number of competent bodies have provided data on the number of RTU All-purpose Cleaners they have awarded the EU Ecolabel to – the countries with the most licences for this product group count hundreds of RTU products. A spot check of the products listed in ECAT also showed that almost every country that has awarded EU Ecolabels to APCs, has awarded some to RTU products. These types of products are, in majority, sold in sprays or as refills for spray bottles, and are well known by consumers who can easily spot them in supermarkets. For these reasons, it is, for the moment, not proposed to fully remove the option of certifying RTU all-purpose cleaners.
		As ready-to-use all purpose cleaners are less environmentally friendly they can be excluded from the scope. Would it be possible to verify if there are a lot of such products with the EU Ecolabel already?	
HSC	Kitchen cleaners	Kitchen cleaners/degreasers should not fall under 'all-purpose cleaners' as they are not generic cleaners, and typically contain higher levels of surfactants and solvents - necessary to achieve the required performance [resulting in higher CDV tox values]. Furthermore, the testing protocol (v 1.3) still identifies kitchen cleaners as 'sanitary cleaners' (pg 85). Either create a separate category for 'kitchen cleaners' or allow the product-types to remain under 'Sanitary Cleaners'.	**Comments accepted.** A separate sub-category has been created for kitchen cleaners in order to set separate requirements and acknowledge the fact that their formulations are different from those of all-purpose cleaners and sanitary cleaners.
		Proposal to create a separate category for the Kitchen Cleaners. Kitchen cleaners are different from other cleaners (e.g. should have elevated calcium and grease removing properties and might be used for sinks, glass and clinkers but not on more delicate materials, such as wood and wallpaper) and a separate category may help create more reasonable limits for these. The other option would be to increase the CDV limits significantly to enable inclusion of this type of products. As an example, the Nordic Eco-label is also including the Kitchen products in the Universal cleaners but the CDV value there is 700.000, compared to the suggested 300.000 in the EU Eco-label Draft criteria.	
		It's necessary to create a new category consisting of kitchen cleaners in the hard surface cleaners product group, because kitchen cleaners have different purpose and different composition from general multipurpose cleaners, especially in the professional sector (high level of oil and grease to be removed). For this	

		reason a set of specific limits should be created for this new category. We are available to support you in finding these values, especially CDV and WUR.	
		We agree to include kitchen cleaners in APC.	
HSC	Scope of kitchen cleaners	Can you specify if the cleaning of the fryers is included in this scope?	**Comment acknowledged.** Fryers are generally not washed with kitchen cleaners, unlike appliances with microwaves. In order to avoid a saturation of examples as to what is covered by the scope, the listed examples of countertops, stovetops, kitchen skins and kitchen appliance surfaces are listed.
		"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." It's important to specify that kitchen sinks are included in this category.	**Comment accepted.** In the new sub-category of "kitchen cleaners", kitchen sinks are listed.
HSC	Scope of window cleaners	Can you specify if the cleaning of exterior glass is included in this scope?	**Comment accepted.** The mention that window cleaning products are limited to indoor use is no longer proposed for this scope as these types of products are generally developed both for indoor and outdoor use.

Table 57 Stakeholder comments regarding the inclusion of fabric softeners in the scope of the laundry detergents product group.

Opinion	Stakeholder feedback	IPTS analysis and further research
For the *inclusion* of fabric softeners	In our opinion, they should be included.	There remain arguments for and against the inclusion of fabric softeners in the laundry detergents product group and it is largely a policy decision. Research results on the composition of fabric softeners is presented in Section 3.2.2.
	We think softeners should be included in the scope of the EU Ecolabel for multiple reasons: The European regulation 648/2004 considers them as part of the product group defined as detergents, from art 2: "Laundry fabric-softener, intended to modify the feel of fabrics in processes which are to complement the washing of fabrics." Our knowledge brings us to consider them good for human health. This is because softeners bring fabrics back to dermal neutrality, where detergents usually work in an alkaline environment. For marketing reasons: producers coming in contact with us are asking for a "full line of products" to propose to the public with the label. This line is evidently counting softeners also. For research and development reasons: we think it is the one of the Ecolabel's duties to give the opportunity to consider new technologies in order to develop new products. To exclude one category would mean not encouraging the market in this sense. Leaving, moreover, consumers without the opportunity to choose an ecologic option, or to seek for another option on the market.	
	Despite the position of some competent bodies, customers are demanding for such products. This will enable companies to propose a full Ecolabel solution to their clients. Surfactants included in softeners are aerobically biodegradable.	
	Ajout des assouplissant dans les produits candidats à l'ecolabel necessaire.	
For the *exclusion* of fabric softeners	We are of the opinion that fabric softeners shall not be included in the EU Ecolabel as these products are unnecessary! In article 2 of the REGULATION (EC) No 648/2004 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 31 March 2004 on detergents these products are defined in the following way: Other products to be considered as detergents are: — 'Laundry fabric-softener', intended to modify the feel of fabrics in processes which are to complement the washing of fabrics. In our view these products should be avoided as they are unnecessary. Their use may result in an additional burden of the environment and maybe also consumers with highly doubtful benefits, even though the main chemicals used ("esterquats") have got good environmental profiles (see above). An EU Ecolabel on the package of these products will be recognized as a purchasing recommendation which we cannot support. As an additional comment: Formulations of fabric-softeners are very similar. The surfactants used for the modification of the feel of fabrics are cationic surfactants, nowadays nearly exclusively "esterquats". According to the report from the HERA project, "Most, if not all, fabric conditioners marketed in Europe are now comprised of the three Esterquat groups, TEAQ (triethanol amine quat), DEEDMAC (diethyloxyester dimethylammonium chloride), and HEQ ((Z)-2-hydroxy-3-[(1-oxo-9-octadecenyl)oxy]propyltrimethylammonium chloride). They combine a good environmental profile, especially in terms of ready and ultimate biodegradability (OECD criteria), with the structural features required for an effective fabric conditioner." http://www.heraproject.com/files/17-e-01-03-2008%20%20hera%20eq%20environment%20final%20draft.pdf. Additional common components in fabric softeners are fragrances and preservatives. EU Ecolabel criteria would	

	therefore probably end up in criteria for these additives (each below 1% of the formulation!) and the awarded products would only differ in these and maybe packaging. Maybe also the raw material base of esterquats could be an issue: http://portal.mpob.gov.my/aotd/rnd-fabric.htm.	
	Fabric softeners should be excluded	
	On this question, BEUC and EEB hold – as in the past – the view that fabric softeners should be excluded from the EU Ecolabel scope. We would like to stress that the purpose of softeners is not to clean; as they do not have any cleaning properties they have no function to improve the washing process. On the other hand fabric softeners have a high environmental impact and Critical Dilution Values (CDV) which means they are toxic to aquatic organisms and they are poorly biodegradable. Besides the negative environmental impact of laundry softeners, their use also leads to consumers being exposed to fragrances which are not rinsed off from the textiles and which can cause strong allergies due to contact with the skin. Although laundry detergents might have high market penetration, the potential of a meaningful differentiation regarding the environmental impact of different softeners is low: most products are very similar in their composition.	

3.2.2 Laundry detergents scope – the case of fabric softeners

Stakeholders were asked for feedback on the inclusion of fabric softeners in the scope of the EU Ecolabel for Laundry Detergents and opinions for and against were voiced. Among the main arguments for their inclusion was the fact that fabric softeners are covered by the Detergents Regulation and that they are extensively used in some countries, so consumers should have the ability to buy more environmentally friendly products. Proponents of not including them in the scope highlighted that they do not have a washing function and the formulations available on the market are very similar making differentiating between them difficult.

This final point is crucial as if fabric softeners were to be included, the EU Ecolabel would have to be able to identify the environmentally 'good' formulations from the 'bad' ones. Little data could be identified on existing formulations of fabric softeners but it can be noted that in 2008 the HERA Project (HERA 2009) noted that, "Most, if not all, fabric conditioners marketed in Europe are now comprised of the three Esterquat groups, TEAQ (triethanol amine quat), DEEDMAC (diethyloxyester dimethylammonium chloride), and HEQ ((Z)-2-hydroxy-3-[(1-oxo-9-octadecenyl)oxy]propyltrimethylammonium chloride)." The fact that triethanoal amine (TEA) is a major ingredient of most fabric softeners in Europe was claimed by Friedli *et al.* (2002). Murphy (2015) also stated that "there does not seem to be anything on the horizon which will replace ester quats as the main active ingredient in domestic fabric softener products". The same study notes that research is being conducted in order to reduce the amount of solvents used at the production stage (solvents are not part of the final formulation) and increase the amount of time a fragrance remains on laundered clothes. For ester quats, the 2014 DID list contains two entries.

This information highlights that, most likely, the formulations of domestic fabric softeners are currently very similar and fragrances could play a major role differentiating between products as well as environmental aspects linked to the production of substances, which is not easily covered by the EU Ecolabel. As such, the criteria developed for laundry detergents would not be able to differentiate between the "good" and "bad" fabric softeners in any meaningful way besides by lowering the quantities of additives.

3.3 Article 2 – Definitions

3.3.1 Comments from stakeholders from the 1st and the 2nd AHWG meeting

Table 58 Stakeholders comments on the 'definitions'

PGs	Comment area	Stakeholder comments	IPTS analysis and further research
Comments after the 1st AHWG meeting			
LD	Terminology (definitions) – comment left on "low-duty".	We suggest to use 'light' duty instead. (It is the commonly used term by industry and also used in Detergents Regulation (Annex VII B). Moreover, in English the antonym of 'heavy' is 'light'.)	**Comment accepted.** A change in terminology to "light-duty" has been made throughout the LD criteria.
		Light duty is more correct	
		Light is more correct	
APC	Terminology	We ask to use the wording "undiluted" consequently throughout the criteria for "Cleaning Products" and not alternatively "concentrated" as this wording isn't defined in the scope and might lead to confusion. Or you have to define "concentrated" as well in the scope.	**Comment accepted.** Changes were made to the technical report in order to ensure that "undiluted" is used throughout the report and there is no confusion with "concentrated".
ALL	Scope	The term "ingredient" should be defined as well.	**Comment accepted.** The use of the term "ingredient" in the proposed decision text is a legacy word. All instances of the term have been replaced with "ingoing substances" in the updated criteria. Thus, the term is not proposed to be added to the definition list.
ALL	Terminology	When referring to 'biocides' the wording to use should be 'biocides used as preservative' or 'preservatives'.	**Comment accepted.** 'Biocides' has been replaced by 'preservatives' for simplicity and consistency with the EU Ecolabel criteria for Rinse-Off Cosmetics.
Comments after the 2nd AHWG meeting			
ALL	In-going substances	Add: "An ingoing substance might be added to the product as substance or as part of a mixture." This is needed for ASSESSMENT AND VERIFICATION (see above *) These substances and mixtures from which the product is mixed up could also be defined as constituents/raw materials…	**Comment rejected.** In order to limit the length and complexity of definitions, it is proposed not to mention the implicit fact that ingoing substances can be either be single substances or as part of mixtures.
ALL	Packaging	A.I.S.E. is of the opinion that the first definition is sufficient.	**Comment accepted.** As new trends appear on the market, more and more undiluted products come in single use doses to be diluted, including for

			products such as all-purpose cleaners. Therefore the definition for packaging that includes the mention of single dose packaging has been added to all product groups in order to avoid uncertainty for the calculation of the WUR.
ALL	Packaging	A.I.S.E. is of the opinion that the wording “in direct contact" is unnecessary.	**Comment accepted.** In order to simplify the definition, the mentions of portions of the packaging should be in direct contact with the contents have been removed.
APC	RTU definition	Can you specify if it’s possible to certify a product as undiluted product and RTU at the same time? We have several products that they comply with requirements for both because in the current decision, we don’t have the accuracy.	**Comment accepted.** A statement on how to deal with products that are both sold as RTU and undiluted has been added to the Assessment and Verification – both types of products should fulfil their respective requirements and if the two types of products are sold as part of a single lot (e.g. one RTU bottle with a refill bottle of undiluted product), the packaging criteria should be fulfilled.
LD	Heavy-duty detergents	It’s important to specify in the name of products that these detergents have to be used only for white textiles	**Comment rejected.** The term "heavy duty detergent" is a common term in the laundry detergent industry (and is opposed to "light duty detergent") and that is the reason it used in the criteria text. The primary function of a heavy duty detergent should be to wash white non-delicate textiles but there might also be another secondary function, therefore no specific requirement is made as to what should appear on a product's label.

3.4 Assessment and verification and measurement thresholds

3.4.1 Comments from stakeholders from the 1st and the 2nd AHWG meeting

Table 59 Stakeholder comments regarding assessment and verification and measurement thresholds

PGs	Comment area	Stakeholder comments	IPTS analysis and further research
Comments after the 1st AHWG meeting			
ALL	mixtures	Are substances composing in-going mixtures regarded as in-going substances? This point shall be clarified in the text.	**Comments accepted.** For all six product groups and all criteria, it has been clarified what are ingoing substances and no mention is made of mixtures, except when explaining that mixtures can be considered in exceptional cases.
ALL	In-going substances	(in response to the following text: "ingoing substances") all ingoing substances intentionally added	
ALL	Exclusions/ mixtures	Ambiguous. The text shall clearly explain whether in-going mixtures should be considered as a whole or whether the criterion assessment should be based on substances only (i.e. in-going substances plus substances composing in-going mixtures).	
TA	Exclusions/ mixtures	Introducing the term of "mixtures" in the revised form of (II)LD, (II)DD, APC and HDD EU Ecolabels is highly debatable. First, because it introduces ambiguity in the assessment of ecolabel criteria (if a mixture is present in the final formulation, should the assessment be based on data available on the mixture itself or on data available on the substances composing the mixture?). Second, because several concepts dealt with in EU Ecolabels are not relevant for mixtures (e.g. degradability, adsorption/desorption, bioaccumulation).	
TA		We think that the word mixtures should not be used. For the definition of 'substance' (and 'mixture', when relevant) a reference to the existing agreed definition in the REACH Regulation should be made.	
LD	Exclusions/ mixtures	The wording is not clear, please re-phrase. Does the 0,010% limit address both "substances and mixtures intentionally added" and "by-products and impurities" or only "by-products and impurities"?	**Comments accepted.** The criteria text has been clarified but it is also proposed to add a table, illustrating the thresholds in the User Manual.
DD	Exclusions/ mixtures	Please clarify the meaning, see comment under laundry detergents document	

IIDD	Exclusions/ mixtures	Please clarify what 0,010% addresses	
APC	Exclusions/ mixtures	Please clarify this meaning	
ALL	Exclusions/ mixtures	Ambiguous phrasing. According to the title of criterion X(a) ("Specified excluded ingoing substances and mixtures"), my interpretation is that compounds specified under this title can be present in the final formulation as long as their concentration does not exceed 0.01% w/w (cf. definition of ingoing substances). According to selected text ("The product shall not be formulated or manufactured using any of the following compounds"), my interpretation is that specified compounds cannot be present in the final formulation, regardless of their concentration. Which interpretation is correct?	
ALL	Exclusions /mixtures	Hazard statements reported in Table 2 are applicable to both substances and mixtures. Why writing "generally refer to substances"?	**Comment accepted.** This portion of the text was used to state that information for substances should be primarily provided. This is now stated in the general "assessment and verification" and the criteria text no longer refers to "and mixtures".
HDD	Exclusions/ mixtures	Part B) The criterion is applicable to any ingoing substance at a concentration greater than 0,010% What if 2 ingredients both classified R50 and with the same function are used in a concentration of for example 0,009; in total 0,018 would be present in the final product but this would be allowed because it are 2 different ingredients. When only one of them is used a concentration of 0,011%, this would not be allowed. This could be resolved when the total amount of all classified substances cannot be greater than 0,010 for each H-phrase. In the old soaps and shampoos criteria they had to make the sum of different ingredients with the same classification.	**Comment acknowledged.** Currently all the substances are treated individually, in alignment with the updated Rinse-off Cosmetics criteria. No indication has been brought forward that this might be an issue.
LD	Thresholds/ limits	0,01% threshold has to be reconsidered as suppliers are most of the time not able to provide data till this concentration. This is explained by the fact that for REACH down to 0,1% is compulsory but not below.	**Comment rejected.** Detergent ingredients have been shown to have different levels of impact on the environment. As some substances can have impacts even at very low concentrations, the requirements for them to be considered "regardless of concentration" (and for the rest to be considered at 0,01%) has been discussed multiple times at EUEB level and the conclusion has always been that the EU Ecolabel seeks to set the highest standards for performance and therefore should be above the REACH 0,10% limit.

Comments after the 2nd AHWG meeting			
ALL	Wording	Add "if existing" as there aren't trade names in any [every] case.	**Comment accepted.**
ALL	Point (i)	This has to be corrected. Often mixtures are part of a detergent formulation - for example in case of fragrances, but also many other functional groups (surfactants, preservatives and others) are very often mixtures. We ask for the safety data sheet (according to REACH) of these mixtures plus the declaration of the producer of the raw material that none of the excluded substances and excluded H-phrases is present above 0,01%.	**Comments accepted.** The wording of the requirements for the assessment and verification has been changed to reflect the points highlighted in the comments.
		"(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." SDS are in any case available. And, as stated before: we wouldn't accept a mixture with unknown substances.	
		* For each ingoing substance listed, the safety data sheet in accordance with Regulation (EC) No 1907/2006 of the European Parliament and of the Council shall be provided. Replace or each ingoing substance by „For each raw material / constituent"... Add: "In addition to that a declaration sheet signed by the producer of the raw material/constituent has to be provided where he confirms that the criteria which cannot be documented by the SDS (hazardous substances a.s.o.) are fulfilled."	
ALL	Point (iii)	Delete this point - We don't accept mixtures with unknown substances and - thanks to REACH - this is really not needed anymore since several years.	**Comments accepted.** Point (iii) proposed in the 2nd draft of the Technical Report has been removed to reflect the fact that Competent bodies require applicants and their suppliers to provide the full list of substances, including the list of substances included in mixtures such as fragrances.
		SDSs are in any case available for mixtures. And, as stated before: we wouldn't accept a mixture with unknown substances as stated	

		above.	
		For six detergents product groups, We don't accept mixtures with unknown substances.	
		There is a small exception mentioned "in exceptional cases" and this should be deleted. We need the information on a substance level and if not available an alternative ingredient should be found. Also the phrase "in exceptional cases" is impossible to verify the same in all member states.	
		Consumers' organisations and environmental NGOS strongly recommend to delete the point (iii) as it would introduce a risk-based approach whereas the Ecolabel scheme has to be based on a precautionary approach. A large part of the information for the ingredients required should be available in the Safety Data Sheets (SDS) according to Article 31 and Annex II of REACH Regulation on the Requirements for Safety Data Sheets. There are therefore no obstacles to obtain relevant information on ingoing substances in the product. In addition, due to the different cut-off limits set in the rules for SDSs ranging from 0.1% and 10%, we are concerned that some substances may become hidden in a mixture. Therefore, NGOs propose to lower the cut-off limit in the Ecolabel requirements to 0.0010% which is the safest threshold, in order to limit impurities of excluded substances which might be in products from the production process. This will force the manufacturers of mixtures to go beyond the requirements of the SDSs and ask for more information on the mixture.	
		It is not necessary to mention this, we have to know the ingredients in a mixture	
ALL	DID list	"… The latest version of the DID list is available from the EU Ecolabel website or via the websites of the individual competent bodies. …" Up to now we don't provide the DID list in our website. To prevent the problem that different versions might be offered we think it is reasonable to have one website where this central document is officially available.	**Comment accepted.** The wording now only refers to the EU Ecolabel website as it should be the one hosting the latest version of the documents.
ALL	A&V Table	Comment about Table 18 is attached.	**Comments partially accepted.** The "x" included in the table has been

		(Attachment read: We can see good intentions for the table. However it is difficult to understand. Clear labels for columns and rows. Section number in the criteria. Clear explanation for "x". It is probably better to use N/A as not applicable instead of "x"? It should be considered to divide tables according to ingredients. For example a table for only surfactants and remove rows with "x", so that each table contains only criteria which are relevant to specific substance. It took us a while to understand that "others" mean any other ingredient including enzyme. It would be helpful if there is a footer to explain "others". The table can be understood that the criteria for the section 2.5.5. should be applied if enzyme concentration is equal to or more than 0.01%. Misleading for enzymes. We think that the sub section 2.5.5.7 should be applied regardless even if intentionally added enzyme is less than 0.01%. If this is not intention, the table can be misleading.)	changed to N/A to make the reading of the table clearer. The term "other" also has been clarified in the table. Concerning the limit indicated for the criterion on Excluded or limited substances, it is true that the table should read "no limit" instead of "0,010%" for sub-criterion (g)
		Enzymes: As for any special criterion here also „no limit" in the last row should be mentioned – this is applicable for Criterion 4 (g).	
ALL	"no limit" in A&V Table	For six detergents product groups, Can you specify the limit of detection for each substance?	**Comment acknowledged.** Currently the presence of a substance in a formulation is checked through the ingredient list and not through the testing of the formulation in a laboratory. Thus, the "no limit" is interpreted to mean "no matter how little was added to the formulation", there is no need to consider a detection limit.
ALL	"no limit" in A&V Table	Preservatives: In contrast to our proposal from September the threshold limit for Hazardous substances shall be 0,01 % according to this table. We can only accept this if there is no derogation for any H-statement as preservatives aren't used in concentrations above this limit.	**Comment accepted.** Currently no derogations are proposed to be granted to preservatives.
ALL	"no limit" in A&V Table	Preservatives, colouring agents and fragrances are added in very small concentrations and if setting a level of compliance at 0,010 % these ingredients will not be regulated. The intention of Table 18 is good but is a little difficult to read. Denmark suggests to have a "no limit" level for the 3 specific ingredients mentioned and this should be clear that this also includes the Hazardous substances criterion. If the limit is not "no limit" for these ingredients the specific requirements for these ingredients shall be much more comprehensive than suggested.	**Comment acknowledged.** The threshold of 0,010% is kept for the criterion on hazardous substances in alignment with the EU Ecolabel criteria for Rinse-off Cosmetics. For the three types of substances listed, more comprehensive requirements are also present in the criteria – specific excluded substances (regardless of concentration) and such requirements as non-bioaccumulation (also regardless of concentration).
ALL	A&V Table	The inclusion of a table clarifying the threshold levels to be taken into account for each criterion and each ingoing substance type is	**Comment acknowledged.** There are limitations as to what can be asked of applicants and be provided by them without undue burden. The remarks on

		much appreciated and really helps figuring out which type of formulation would be eligible for ecolabelling. The expression units shall be added in the table (i.e. ≥ 0.01% w/w). Otherwise, I would like to point out that, despite the effort, the assessment and verification steps have some limitations, especially as the threshold levels reported for identifying ingoing substances are not in line with those used in Safety Data Sheets (SDS) for the identification of hazardous substances. As a general rule, an ingredient has to be identified in the section 3 of a product's SDS as long as its concentration is above 0.1% to 1%, depending on its hazard level. On the opposite, any applicant for the EU Ecolabel has to check the fulfilment of ecological criteria on every ingoing substances, either regardless of their concentration in the final product (preservatives, fragrances, colouring agents) or if present at concentrations higher or equal to 0.01% w/w in the final product (other ingoing substances). As any applicant will use its suppliers' SDS to list the ingoing substances in the final product, in some cases, some hazardous substances might "escape" the assessment and verification steps, and yet be present in the final product at concentrations higher than 0.01% w/w. Example: a supplier provides to a given applicant a raw material containing various impurities classified as Aquatic Chronic 2, H411. Provided that those impurities are present at concentrations lower than 1% w/w, they will not appear in the raw material's SDS. Depending of the final product's formula, those impurities might be present at concentration higher than 0.01% w/w in the final product (= ingoing substances) and yet, not being considered in the assessment as not identified in the communication process between the supplier and the applicant (i.e. the SDS). Taking the example of the declaration templates published in the EU Ecolabel rinse-off cosmetics user manual, do you assume that any supplier will willingly communicate to the applicant customer the list of all ingredients present at concentration higher than 0.01% in the delivered raw material? Besides, in its actual form, the "Declaration of the manufacturer of raw materials" template (declaration 3.4) for any of the six detergent products groups is not appropriate and shall be revised following the	the declarations found in the User Manual for the Rinse-off Cosmetics will be carefully examined and taken into considerations when the User Manuals for the six detergent product groups will be edited and published.

		example of the recently updated template for the EU Ecolabel rinse-off cosmetics group. The current template compels the suppliers to declare that hazardous substances " neither as part of the formulation nor as part of any mixture are included in the formulation (Limit 0,010%)." This is quite a non-sense as the 0.01% w/w limit applies to the final product, not to the raw materials. It should be the responsibility of the applicant/manufacturer of the final product to provide a declaration of such type. The only responsibility of a raw material supplier should be to ensure that all the necessary information which is needed by the applicant to prove the compliance with the ecological requirements have been provided.	
		In my opinion all the ingoing substances should be listed without a concentration limit because the criterion on excluded or limited substances applies without concentration limit.	**Comment rejected.** The criterion on excluded and limited substances works on the basis of declaration of non-presence and is regardless of concentration. Having a list of ingoing substances that includes surfactants (and other non-preservative/fragrance/colouring agent substances) below the threshold of 0,010% would not be a more reliable proof of compliance and would potentially increase the amount of bureaucracy for the applicant and CBs alike.
ALL	Testing laboratories	"The test shall be preferentially performed by a laboratory complying with the relevant harmonized standards for testing and calibration laboratories" And if not, which consequences?	**Comments partially accepted.** The text proposed is based on the latest voted and agreed on with Competent bodies. While there are EN ISO 17025 certified testing laboratories in many parts of Europe, some potential applicants do not have access to them or it would put an undue burden on them to send their products for testing to one. Thus, it is left up to the discretion of the Competent bodies to check whether the testing laboratories used by potential applicants are acceptable, given their local situation. The consequences of not using a testing laboratory that meets the requirements that a Competent Body deems appropriate is that the applicant is forced to send their product for a retest at another testing laboratory.
		BEUC and EEB call for a general requirement at least for all physical/chemical analyses and for (eco) toxicological tests to perform the testing in EN ISO 17025 or GLP (Good Laboratory Practice) laboratories.	

3.5 Reference dosage (and functional unit)

3.5.1 Comments from stakeholders from the 1st and the 2nd AHWG meeting

Table 60 Stakeholder comments regarding the reference dosage

PGs	Comment area	Stakeholder comments	IPTS analysis and further research
No comments were received on this issue after the 1st AHWG meeting			
Comments after the 2nd AHWG meeting			
LD	Wording	The wording of the dosage is confusing. The recommended dosage is the one for 1kg of normally soiled dry laundry. In my opinion it doesn't make any difference if that is based on a load of 4,5 kg wash, adding this only complicates the text. I know that dosage per 4,5 kg wash is the dosage that should be mentioned on the label but this isn't useful information here.	**Comment acknowledged.** It is true that the measure of 4,5kg is not really meaningful in real world applications; nevertheless adding that the data for 1kg is obtained based on the requirements for a load of 4,5kg aligns the wording of the EU Ecolabel to that of the Detergents Regulation and is known to industry.
HSC	Water hardness	The hardness should be mentioned too. Sometimes a range of dosage is given for normally soiled surfaces, this is due to the difference in hardness. If a dosage range is given we always evaluate the highest dosage but in this case it is for hard water and it is possible that the product doesn't meet the CDV criterion then for this dosage while the cdv criterion is written for normal hardness. Also in the criterion "user information" there is referred to the hardness so it is relevant for this product group.	**Comment partially accepted.** An indication has been added to the HSC and HDD reference dosage requirements that the highest recommended dosage should be provided. This has an impact on how the compliance with the rest of the criteria is checked (e.g. CDV calculations are based on this reference dosage). No mention of water hardness is proposed to be made in the reference dosage as products are sold on multiple markets that cover areas with multiple levels of water hardness. The highest dosage should cover the case where the most chemicals are used (in areas where the water hardness is the highest).
HDD	Link to fitness to use	This sentence must be duplicated or moved to the paragraph 6.5.7 Fitness for use, in the framework page 74-75 (or 82-83). "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)."	**Comment accepted.** The fitness for use criterion for HDD now refers to the same reference dosage.

3.6 Water hardness

Table 61 Stakeholder comments regarding water hardness

Product group	Comment area	Stakeholder feedback	IPTS analysis and further research
Comments after the 1st AHWG meeting			
LD (ALL)	Dosage	Please add German degrees dH as well and indicate if this is regarded as soft or hard water.	**Comment accepted.** The Detergents Regulation only mentions mmol CaCO3/l and the German Detergents Acts gives a conversion table. A conversion chart can be added to the User Manual to ease the transition between the two units. For Laundry Detergents, whenever comparisons are made with the Nordic Swan criteria (and also other ecolabelling schemes), it is noted that the values are calculated for soft water and not water with medium hardness and the values are never compared directly.
LDs	Dosage	(comment was included in the attachments) Be careful comparing the dosage requirements for laundry detergents! In the EU Ecolabel the limits for dosage aren't set for soft water (< 1,5 mmol CaCO3/l) but for a water hardness of 2,5 mmol CaCO3 /l which is usually the lower limit for hard water. The dosage of laundry detergents is usually strongly dependent on water hardness. Please check this in this regard.	
No comments were received after the 2nd AHWG meeting			

Water hardness is referenced in all the current detergent EU Ecolabel criteria although it does not directly intervene in most of them. In some it is referenced in °dH (deutsche Härte, degree of General Hardness) and in others in mmol $CaCO_3$/l. As the Detergents Regulations refers to water hardness in mmol $CaCO_3$/l, this unit is proposed to be consistently used throughout the concerned EU Ecolabels.
The Detergents Regulation specifies that 2,5 mmol $CaCO_3$/l is considered to be medium water hardness but 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 act (German Law 2007)) are indicated in Table 62.

Table 62 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

It should be noted that these ranges are not aligned with the ranges used in the current EU Ecolabel criteria for I&I products (0-6°dH, 7-13°dH, and >14°dH), nevertheless when asked if this would have an impact on products and/or applications for an EU Ecolabel license for I&I products, no comments were received from stakeholders. One possibility is that in modern institutional installations, water hardness is of no consequence as the set-ups include water softening components that allow the use of lower product dosage and results in lower costs.

3.7 Dosage requirements

3.7.1 Feedback from stakeholders following 1st and 2nd AHWG meeting

Table 63 Stakeholder comments regarding dosage

PG	Comment area	Stakeholder feedback	IPTS analysis and further research
Comments after the 1st AHWG meeting			
LD	Concentrated products	We think that the European Commission should reconsider the promotion of concentrated products due to new rules classification and labelling according to the regulation nº 1272/08 (CLP).	**Comment acknowledged.** While it can be expected that more products will be classified under CLP as more substances will be classified, currently no information has been forthcoming from producers as to have the new CLP classification requirement will impact detergent products. As there are environmental gains in the production and use of concentrated products, it is proposed to continue with the tightening of criteria that favour the concentration of products, such as maximum dosage requirements and packaging requirements. These criteria, nevertheless, do not require for products to be extremely concentrated as these present potential environmental hazards and are the ones most likely to be classified under CLP.
LD	Concentrated products	Concentrated laundry detergents are becoming the standard. In Belgium 71% of the laundry detergents sold in 2012 were concentrated (12% in 2008). Also producers and distributers (e.g. press release Colruyt 2011) are moving to concentrated products. See press release P&G, article prevent pack Henkel and an important Belgian Supermarket.	**Comment acknowledged.** There is no standard (industry or legislative) definition for "concentrated" products, thus only the lowering the dosage threshold can push towards the increased use of these types of products. Moreover, there are potential environmental trade-offs when it comes to very concentrated products, such as a much higher impact if overdosing or a spillage occurs and safety implications due to the fact that concentrated products tend to have more corrosive formulations and necessitate stabilisers.

LD	Dosage	We do not agree with the new limits proposed for laundry products. In addition, we consider meaningless to adopt different limitations for liquids and powders. Suggested dosages are, more or less, equal to the lower existing on the market.	**Comments partially accepted.** The same threshold is proposed to be adopted for powder and liquid products. In terms of threshold, the proposed values are based on a market survey and it has come to light that products that are aimed at colour fabrics, etc. ("light-duty") have significantly lower dosages, thus making a lower threshold possible. The reasoning proposed based on "real dosage" is at odds with how the dosage is calculated as it is based on amount of product per kilogram of clothes washed and not water used.
		The dosage for light-duty detergents should be the same as for heavy-duty detergents. (Rationale: The light-duty programmes in washing machines use much more water that the heavy-duty programmes, which will result in a higher dilution of the detergent. So, even if the dosage is the same for both types of products, the 'real dosage' in the washing process will always be lower for the light-duty detergents.)	
		Dosage : 14mL/kg pour les lessives liquide est trop restrictif. A notre connaissance en France, si l'on exclue les doses hydrosolubles liquides, il n' y a pas ou très peu de lessive HDD à un dosage inférieur à 14.5mL/kg. Le fait d'encore plus concentré les formules de lessive vont amener à des classifications irritantes ou corrosives des lessives HDD ce qui est dommageable. Nous proposons un dosage maximum de 15mL/Kg pour les lessive liquide HDD ce qui réduit le dosage par rapport aux critères actuels	
LD	Dosage	(comment was included in attachments) In our view it is at least important to exclude so called "Jumbo"-products. Concentrated product in this regard would mean that no or only very little anorganic salt is added. These salts have the only function to maintain the "pourability" of powders and aren't really needed or at least not needed in this high portion. Often sodium sulfate is used. In German these laundry detergents are sometimes called "Jumbo"-packages. http://www.t-online.de/lifestyle/besser-leben/id_65987752/waschmittel-bei-jumbopackungen-wird-mit-fuellstoffen-gemogelt.html At least in Austria the sold products which include considerable amounts of these salts are in the minority and it is important	**Comment partially accepted.** The research results summarised below are in agreement with the main statement of the commentator – the jumbo products would not be able to pass the dosage requirement. Nevertheless, it is proposed to lower the threshold on dosage. Follow-up research: Jumbo products are large volume retailed packages of detergents that appear to offer value (T-Online Lifestyle 2013). However, they may be padded with fillers, simple salts, ostensibly for flowability, which simply means that a greater volume of product is needed compared to a more concentrated formulation. The jumbo pack may therefore offer lower value per wash by requiring 50-70% more product per wash for powder products.

		that these products cannot be labeled with the EU Ecolabel. But this is no problem - the given limits for dosage exclude them anyway. We don't feel the need to set the dosage as low as possible having valuable criteria on the special chemicals included are more important in our point of view.	An interesting reason for extra fillers is provided to one manufacturer: in essence, consumers are known to overdose, perhaps because they do not believe that low volumes of concentrated formulation actually work. Therefore, specifying a higher volume of detergent including an inactive, neutral ingredient, satisfies this expectation that more volume is better. However, there may be negative environmental effects associated with the additional burden of salts, typically sodium sulphates. A number of examples are provided in the article referenced to illustrate the dosages for jumbo formulations (135 ml to 215ml) and these would not be able to meet the dosage criterion, even with very low densities.
DD	Dosage	We welcome the JRC proposal to move from "total chemicals" to "dosage requirement" in order to promote concentrated products for DD.	**Comments partially accepted.** The dosage proposed for DD does not depend on whether the products are liquid or powder, all dosages are measured in g/wash. An update is proposed for the dosage requirements for DD. For rinse aids, further research did not yield that modern dishwashers offer an easy and efficient way for consumers to dose this type of product.
		The dosage should be increased for the case of liquids. (The currently proposed values for single- and multi- function products, 18 and 20 g/wash, respectively, would make it impossible for any liquid dishwasher machine detergent to be ecolabelled. This type of product is still used in countries such as France. The product would have to fulfil the CDV criterion in any case. Please refer to the A.I.S.E. ASP documentation for the Household Manual Dishwashing Detergents for more information.)	
		Although we recognize that it is sometimes difficult to estimate the appropriate amount of product needed according to the cleaning situation, we believe that it is feasible to set a dosage requirement for rinse aids for dish washers.	
HDD	Dosage	Although we recognize that it is sometimes difficult to estimate the appropriate amount of product needed according to the cleaning situation, we believe that it is feasible to set a dosage requirement for HDD detergents.	**Comment acknowledged.** Further research has been done on this issue, as follows: In realistic settings, the amount of product used for dishwashing highly depends on the person. Stamminger *et al.* (2007) found that the average amount of product used by Europeans is 3.2g for one place setting but the manner in which these 3.2g were used greatly varied – some people fill the sink with soapy water and then rinse, others keep the water flowing and put the product on a sponge, others still dilute the product in a small amount of water next to the sink where they dip the sponge from time to time. AISE recommends the use of 5ml for 5 litres of wash water (or "per job", with a "job" being the washing of four place settings (AISE 2014). This

			amount is quite below what has been observed as used (3.2g x 4 = 12.8g >> 5ml even if the product's density is high), suggesting that if producers attempted to meet a requirement on maximum indicated dosage, they might indicate dosages that are much lower than what is actually used, just in order to satisfy this first basic requirement. Currently, the fitness for use testing is done against a standard generic product and is relatively easy to pass, meaning that products can pass even when small amounts are used. Nordic Swan also has a requirement on maximum dosage, 1g/l of wash water (using soft water, meaning the amount would be higher for water of medium hardness) although it is unknown how the requirement was set. Thus, at this stage, it is proposed to refrain from setting a maximum dosage requirement for the EU Ecolabel but rather favour a smaller recommended dosage amount through criteria such as packaging.
Comments after the 2nd AHWG meeting			
LD	Threshold	We think 10 g/kg for LDD is too restrictive. It corresponds to a maximum dosage of 25g/wash that is not suitable. To reach this proposal, we would be forced to overconcentrate our formulas between 1.5 to 2 times to keep the efficiency. It may cause labelling and classification for laundry products as corrosive and/or H412, which can be in contradiction with Ecolabel. We propose the same limit of HDD products: 16g/Kg laundry (as the actual regulation)	**Comment accepted.** The value of 10g/kg laundry indicated in 2nd Technical Report (JRC 2015) was a typo and has been corrected to 16g/kg laundry. The data corresponding to light-duty detergents has also been recalculated as an error had been made in the original calculations.
DD	Change in criterion focus	The EEB and BEUC strongly support the JRC proposal regarding the moving from "total chemicals" to "dosage requirements" for DD. Dosage criteria will promote concentrated products which bring significant environmental benefits with regard to less transport emissions and less packaging. As concentrated products might be toxic and harmful to consumers, NGOs strongly support the JRC proposal to set strict requirements on the end product. We agree that the final product shall not be classified and labelled as being acutely toxic, a specific target organ toxicant, a respiratory or skin sensitizer, carcinogenic, mutagenic or toxic for reproduction, or hazardous to the environment, in accordance with CLP Regulation.	**Comment accepted.**
IILD IIDD	A&V	Can you specify what evidence can bring the applicant to prove it?	**Comment acknowledged.** This issue was brought up during a CB Forum meeting and it was agreed

			by all CBs who have had to deal with applications for I&I products that user instructions and safety data sheets for products are the main sources of evidence provided by applicants. It is proposed to include a list of potential documents that can be provided in the User Manual.

3.8 Toxicity to aquatic organisms

3.8.1 Feedback from stakeholders following 1st and 2nd AHWG meeting

Table 64 Stakeholder comments regarding toxicity to aquatic organisms

PGs	Criterion areas	Stakeholder comments	IPTS analysis and further research
Comments after the 1st AHWG meeting			
ALL	Calculation	Under its current form, the DID list Part B only deals with substances, not mixtures. The CDV should be calculated on the sole basis of data available at the substance level (see rationale). Degradability is not a relevant concept for mixtures: According to Regulation (EC) No 1272/2008: "[...] data from degradability and bioaccumulation tests of mixtures cannot be interpreted; they are meaningful only for single substances".	**Comments partially accepted.** The DID list Part B does not, indeed, address mixtures and the calculations should be done on the basis of substance data. The DID list Part A does list some data for generic substances and mixtures such as "fragrances" but to be used in the case where it is impossible to obtain more precise data. The text has been updated to reflect that all calculations should be made at substance level, whenever possible.
ALL	DID list	Are these values calculated from DID-2007? CDV-values must be lowered. The DID-list 2014 gives chronic values for many ingredients and a recalculation is necessary.	**Comments accepted.** Whenever CDV values were available calculated with the 2014 DID list, these were included in the report in the respective chapters. An overview of the observed impact of changing from the 2007 to the 2014 DID list is included below.

ALL	Calculation method	A.I.S.E. favours a risk-based approach. We have proven that it is possible to address this topic with a risk-based approach and we have developed the "Environmental Safety Check" tool (http://www.sustainable-cleaning.com/en.companyarea_documentation.orb). We would suggest to consider this as an alternative and we are available to provide more information and share our experience in building and using such a tool.	**Comments acknowledged.** During the early stages of the revision process, several methods of assessment of aquatic toxicity were assessed. Each relies on different principles and assumptions and each has benefits and drawbacks and, in light, of the constraints of the project, CDV was chosen as the one that will be used for this revision. It is true that it is majorly hazard-based and takes an approach based on the principle of precaution, but it fits with the philosophy behind the EU Ecolabel. The CDV approach also encourages further research on the long-term effects of substances as the DID list is revised if new chronic data becomes available.
HDD	CDV	We believe the proposed value is too high. We have made some limited preliminary calculations and the values vary between 1550 and 650.	**Comment acknowledged.** Stakeholders were contacted in order to obtain more information, but no new CDV values were received.
APC	CDV / NBO	1) According to the legislation of many EU countries the wastewaters of non-domestic buildings must be treated before entering into the public sewers unless they are assimilated to the domestic ones. In Italy, the Table 3 of the "Allegato 5" of the D.L. 152, for instance, sets a maximum for surfactants at 4 mg/l. Should this value be used to calculate the CDV for the professional APC sanitary cleaners and window cleaners? 2) The APC are more and more frequently used with dosing systems. This becomes "a must" for the professional cleaners. We have experienced up to a 50% reduction, in the latest 5-10 years, for the pro-capita consumption of the detergents on the professional market. Some ecological culture and the present economic crisis have pushed the professional cleaners to the use of dosing systems, very often together with super-concentrated products. Suggest to make derogation for the professional cleaning products as far as the CDV calculation is concerned. For instance, to modify the DF value from the present 0,05 indicated on the DID list to up to 0,005. Another problem is also the cost for the companies to reformulate the products to comply with the new CDV values. Another item that should be considered is the Anaerobic Biodegradability. Another item that should be considered is the Anaerobic Biodegradability. Very performing anionic surfactants like the LAS is not totally anaerobically biodegraded. However the LAS combined with other surfactants gives a synergic cleaning action that helps reducing the other surfactants concentration in the wastewater.	**Comments partially accepted.** Currently consumer and professional products are covered by the same EU Ecolabel and there has not been a strong indication that the formulations of domestic and professional products vary greatly or that they are used in very different manners, as it is the case for laundry and dishwasher detergents. The calculation of the CDV values depends on the reference dosage, which itself depends on whether a product is ready-to-use or needs to be diluted before use. The exact amounts of substances found in the reference dosage (100g for RTU and recommended dosage for 1L of washing water for undiluted products) should be used and not what is indicated as a maximum in a law. Concerning a lower of DF, the calculation of DF is not linked to the dosage but rather to degradation, therefore the proposal cannot be accepted. In terms of costs, manufacturers of products have not highlighted reformulations costs due to CDV changes as a major impact.
APC	CDV / values	There are four issues in the new criteria I like to rephrase to make the criteria more environmental friendly and keep focus on	**Comment rejected.** While the example proposed is interesting, it appears to be unrealistic.

		improvements: 1) CDV limits for All-purpose cleaners (APC) and sanitary cleaners. It is strange that CDV limits are calculated and compared in two different ways for RTU and undiluted products. For RTU it is per 100 gram however undiluted products it is per 1 liter (= 1000 gram) washing water. In case a producer make two products: a) RTU (10% surfactant); CDV = 50,000 b) undiluted product (100% surfactant) customer has to dilute this to a 10% solution. CDV = 500,000 due to the differences of calculation 100g vs 1 liter (=1000 g). Both products will give the same chemical waste however the CDV of the undiluted product is 10 times higher. Unfortunately the CDV limit is 52000 vs 12200 ca 4.3 x lower. The undiluted product will probably not match with the CDV limit and cannot get an EU-Ecolabel as the undiluted product uses less packaging and less transport (of dilution water) which mean a better carbon footprint . From an environmental point of view the environment undiluted products are favourable this is opposite to the EU-Ecolabel criteria. Our advice is: Calculate the concentrate to the intended use concentration and use the RTU Limit.	Consultation with manufacturers of professional-grade products yielded that undiluted products containing more than 30% active content are extremely rare on the market and most contain significantly lower percentages. Moreover, the data collected on different products showed that the undiluted products tended to have a much less concentrated in-use washing solution than ready-to-use products, and thus a lower final CDV. When contacted for examples of CDV data, only a limited amount of CDV data was provided for products that did not meet the EU Ecolabel criteria.
APC	CDV / Values	Concernant l'ajout du nettoyant vitres en dilution au scope de produits rectifiables c'est une bonne chose. Cependant, les critères VCDtox et VOC nous semblent beaucoup trop contraignants. De notre point de vue, un produit nettoyant vitres à diluer est automatiquement un produit vitre sur- concentré à diluer pour recharger un flacon spray vitre PAE (comme par exemple les berlingots d'assouplissant qui servent à recharger un flacon à compléter à l'eau). Une fois dilué, la teneur en VOC ou le VCDtox final est le même qu'un produit prêt à l'emploi. Les contraintes VCDtox et VOC devraient être alors au même niveau que les contraintes des produits vitres PAE. Si la commission souhaite réellement différencier les critères VCD tox et VOC entre ces 2 sous catégories de produit, nous proposons pour les nettoyants vitres en dilution une limite de VCDtox de 1800L et une limite de VOC de 2%.	**Comment accepted.** The thresholds have been reworked to be less demanding for undiluted products.

APC	CDV	We believe the CDV values could be more strict, certainly for RTU Sanitary cleaners. Due to the changes of the DID list we have not yet been able to collect sufficient data to verify the proposed limits. I question if the CDV value is as strict for concentrated products as it is for RTU products? Are we being easy on the RTU products?	**Comment acknowledged:** A few data points have been provided with the updated 2014 DID list in order to update the CDV threshold. Stakeholder consultation yielded that currently some undiluted sanitary cleaners are able to pass the CDV thresholds but the data points are in a very broad range and it has been impossible to pin point the exact reasons and substances why some formulations have higher CDV values than others.
DD	CDV	When it comes to product types that are not widespread under the Ecolabel certification, for example the rinse-aid for domestic use, those are too few to make a meaningful evaluation. It would not be based on real data, so it is without interest to propose a lower limit.	**Comment acknowledged.** For the CDV evaluation, for all the product groups, JRC does not have access to exact formulations and it has been difficult to obtain a large set of CDV data points, therefore it is true that the new thresholds proposed are not based on a statistically significant data set. Nevertheless, the fact that three products have successfully applied for an EU Ecolabel and all three have CDV values well below the 10 000L threshold shows that it is technically feasible. As the EU Ecolabel strives to uphold a good environmental standard, the proposal for a CDV threshold at 7 500L was thus considered realistic.
DD/IIDD	CDV	CDV for dishwashing for both consumer and professionals CDV calculation is based on very conservative and hazard-heavy assessment. Amfep proposes that alternative method should be seriously assessed. If risk to the environment is scientifically assessed through REACH dossiers or peer-reviewed article, exemption of assessment should be considered. A.I.S.E's ESC tool is a good example. The newly conducted tests for subtilisin lead to two entries in the updated DID list – protease and non-protease. Due to the test data, the new DID data of protease (subtilisin) would give significant impact to CDV calculation. As we stated in the derogation request for subtilisin, the environmental impact of subtilisin is in reality nil. We therefore request that an alternative assessment method should be developed reflecting risks in reality or adjust CDV limits. Otherwise it would be difficult for an applicant for ecolabelling to meet all other requirements e.g. low dosage to a washing liquid, low temperature and good washing performance.	**Comment acknowledged.** The EU Ecolabel has elected to take an approach to aquatic toxicity employing toxicity and safety factors, which highly depend on the test results available and the data submitted for review. It must be acknowledged that the state of knowledge and completeness with respect to toxicity factors - chronic and acute - is under permanent review. This review is outside the scope of the EU Ecolabel revision process per se; clear anomalies should be brought to the attention of DG ENV and the team in charge of the revision of the DID list. At this stage, no changes are proposed to be made to the EU Ecolabel criteria to deal with this issue.
IIDD	CDV / values	BEUC and EEB are very concerned that no improvement has been brought to the CDV limits of IIDD.	**Comment acknowledged.** The EU Ecolabel criteria revision process is highly dependent on the quality of

IILD	CDV / values	BEUC and EEB are very concerned that no improvement has been brought to the CDV limits of IILD. The IILD average values of existing products in the market are twice to three times higher than the current CDV limits.	market data and product formulation data received from stakeholders. Without sound data that shows a pattern, changes to criteria - especially quantitative ones - cannot be substantiated. The current position is that - notwithstanding that substantiating information has not been received from stakeholders - there are few applications within the IIDD group; tightening criteria might lower applications further. Any and all information concerning exact formulations of IIDD/IILD products would be highly appreciated by the team in charge of the revision in order to be able to propose more exact thresholds.
LD	CDV	(In response to: "Should the CDV values be stricter?") No	**Comments partially accepted.** A few data points were provided by a stakeholder for LD calculated with the 2014 DID list and the results confirmed the major trend – the current CDV thresholds are above the CDV values for laundry detergents, at least heavy-duty ones. Concerning the link between performance and CDV, no substantiating data was found by JRC or provided by stakeholders.
		In a general way, lowering CDVs will lead to a worst performance if performance assessment is not going to be more demanding. Ecolabel products must have a real success on the market field in order to have a real impact on the environment, this is not going to happen lowering performances. It is for us too soon to modify these limits, nevertheless we agree it is a valid proposal for when the Ecolabeled number of products on the market will be much more important than it is now.	
		(In response to: "Is the CDV value for fabric softeners sufficient?") Yes	
		CDV-values must be lowered. The DID-list 2014 give chronic values for many ingredients and a recalculation is necessary. A separate value for very concentrated products should be discussed.	
Comments after the 2nd AHWG meeting			
ALL	Calculation sheet	It will be necessary to provide as quick as possible the calculation sheets to evaluate the conformity to the new limits (before the release of the final decision if possible)	**Comment acknowledged.** The calculation sheets present on the EU Ecolabel website have been updated with the values of the 2014 DID list since October 2014. The only changes that will be introduced are the changes in thresholds, not in the substance data.
ALL	Alert set up for changes in requirements	It will be necessary to create an alert when the calculation sheets are updated by the European Commission. Since the new did list 2014 in application, several versions of each calculation sheet were transmitted, without reporting the applicants. When an error is corrected, we have to be informed in order to transmit correct datas to competent bodies.	**Comment accepted.** The content of this comment was brought up during a CB Forum meeting and it was agreed that DG ENV will send out a monthly email summarising the changes made to the website and any of the calculation sheets.

ALL	General	BEUC and the EEB are very concerned to see that no improvement has been brought to the CDV limits of IILD. We do not understand why the JRC is missing data and information about the IILD formulations as they are today 15 ecolabelled products on the market. We therefore ask industry to provide more data and the JRC and competent bodies to take further action in order to gather this information and set more ambitious limits for CDV.	**Comment acknowledged.**
ALL	Calculation	I would rather propose: dosage(i): weight (g) of the substance i* DF(i): degradation factor for the substance i* TF(i): toxicity factor for the substance i* *In the exceptional cases where neither the applicant nor the applicant's suppliers know the composition of a mixture down to the substances, information on the mixture itself can be provided.	**Comment rejected.** The DID list provides DF and TF values for common types of mixtures (e.g. "perfumes", "dyes") already therefore no specific provision is needed.
ALL	Calculation	DO you confirm that inorganic ingoing substances have to be considered in the calculation of the CDV?	**Comment acknowledged.** Yes, all ingoing substances must be considered for the calculation of the CDV, including inorganic ones (the DID list provides entries for many of this type of substances).
ALL	CDVchronic	it should be made clear if the CDV value is "acute" or "chronic" . There is a big difference in the value and the needed limit.	**Comment accepted.** The criterion text has been updated to reflect that only $TF_{chronic}$ should be considered in the calculations, as in the current criteria.
ALL	CDV for fragrances	During the revision process of the DID-list, A.I.S.E. has made a proposal for fragrances to align the toxicity thresholds with the classification criteria of the 2nd ATP of CLP Regulation. If only H412 (R52/53) or non-classified fragrances can be used (see all household detergent criteria) the entry in the DID list would need to be changed to look like the grey part in the table below. Here, the toxicity value is based on the lowest toxicity value (worst case), that is linked to the hazard classification of H412 (cat3) under the 2nd ATP to CLP. The current ecotoxicity value that is used for fragrances classified as H411 (R51/53), which are not allowed. Fragrances that are not classified for the environment could still	**Comment acknowledged.** JRC is not in charge of the revision of the DID list, all proposed changes should be made to the body in charge of the revision. Concerning the fact that H411 classified fragrances are not allowed in EU Ecolabel detergents because they are not derogated, that is not correct. Indeed, such fragrances can be used in concentrations below 0,010% (per substance).

		be assessed as being H412, unless toxicity data that can be used to derive a lower TF is available, as is currently already specified in the DID list.	
ALL		This criterion is not ready to be evaluated by us yet if the limit values are based on the old DID list.	**Comment acknowledged.** Multiple stakeholders have provided data based on the 2014 DID list and the proposed values are based on that list.
HSC	Threshold - APC	The proposed limit for all purpose cleaners – both, RTU and undiluted – is much too high. (300 000 and 30 000)! Up to now the limit for APC is 18.000 l, based on the old DID-list. Calculations with the new DID-list give in our experience similar values if not at little bit lower ones. Therefore there is no reason to raise the limit at all, in our view it could be lowered at least a little.	**Comment accepted.** The threshold for undiluted APCs is proposed to be kept at 18 000 as the data shows that the change to the 2014 DID list can lead both to increases and decreases in CDV data. For RTU products, the limit is proposed to be kept at 300 000, which is already quite lower than the current 520 000 and will force many products to be reformulated with fewer fragrances.
		If higher limits for kitchen cleaners are needed please set a distinct limit for those kind of cleaners.	**Comment accepted.** The kitchen cleaners are no longer in the category of all-purpose cleaners. Their limit is proposed to be aligned with that of the sanitary cleaners, due to lack of data specific to kitchen cleaners. In the next revision, a separate threshold could be considered if there is more data.
		All purpose cleaners, RTU: The suggested CDV limit for all purpose cleaners, RTU of 300.000 is too low, especially as the Kitchen cleaners is suggested included in this category, it should be 700.000 instead. Calculations can be provided.	
		For APC, regarding the RTU CDVtox limit of 300 000 is too restrictive. 0.12% of fragrance represents 300 000 of CDVtox impact. So it's not possible to respect this criterion if you add fragrance in RTU formulations. The fragrance is necessary for consumers in France for this application. In addition, the new 2014 DID list data increased so much the CDV tox calculation. The impact is for several raw materials, not only fragrance. We propose the same limit of RTU sanitary cleaners of 700 000. To harmonize with the ratio of 10% RTU/undiluted, we also propose 70 000 for undiluted APC.	**Comment rejected.** The data gathered on all-purpose cleaners has shown that they rarely have CDV values that are above 300 000 and even the majority of sanitary cleaners are also under the proposed threshold. The 0,12% mentioned in the comment is based on the worst-case perfume that is listed in the DID list, the applicant should only use that data if they or their suppliers do not have the data on the specific substances making up their perfumes (for which the CDV values tend to be much lower). For any concerns on the data contained within the DID list, the body in charge of the DID list revision should be contacted.
		I have a general comment on the CDV tox calculation. Now perfume is responsible for the main part of the CDV, this means that if you want to meet this criterion the first thing that you have to do is looking if the amount of perfume can be lowered because changes in other ingredients are often marginal. On one hand this is positive because we don't want to have too much perfume but on the other hand this doesn't encourage innovative development in the formulations. Wouldn't it be possible to set a limit for formulations without perfume? And of	**Comment acknowledged.** Setting up two thresholds for each product type as proposed would necessitate a lot of data from all of the EU28. Currently the JRC can only obtain this type of data from competent bodies and the industry itself, after they calculate the CDV values (the JRC does not have access to formulation data of EU Ecolabel products). Past experience has shown that requests for data are seldom answered and a lot of time and resources must be spent in order to acquire a significant amount of them. Thus, it is impossible to start such a work at this stage of the revision process but it is something that should be kept in mind for future revisions.

		course additional to that also a limit to the complete formulation because we don't want to give the possibility to put as much perfume that you want. I did some calculations: - for undiluted APC: the perfume is responsible for more than 50% up to 80% of the cdv value. So I think that the CDV limit -- for the product as a whole can be 12500 (as the previous proposal) and for the product without perfume e.g. 40% of this.↵- for RTU toilet cleaners: the perfume is responsible for 80% up to 97% of the CDV value. So proposed value for the whole product: 60000 and without perfume e.g 15% of this.↵- for RTU window cleaners the proportion of the perfume is less (50-60%), so proposed value for the whole product 4800 and without perfume e.g 45% of 4800.	
		This criterion is in my opinion the main driver for environmental products. So we have to dare to propose strict limits. If there comes a lot of reaction we can always lower the requirements. The value of undiluted APC is in my opinion too high. I don't think that there are many products with so low dilution rates like 1/30 on the market and I don't think that we have to promote them. If we higher the CDVtox limit for undiluted products I know that in a lot of formulations the concentration of perfume will increase, so that the cdv of the product is just below the limit. Just because it is possible to higher the concentration of the perfume and because there is still the perception with consumers that the more it smells the cleaner it is. The proposed value in the previous report, 12.500, would be better.	**Comment accepted.** The threshold for undiluted APCs is proposed to be kept at 18 000 as the data shows that the change to the 2014 DID list can lead both to increases and decreases in CDV data.
		In the current criteria kitchen cleaners were part of the sanitary cleaners, now there are part of the all-purpose cleaners. Did you check if the values proposed for ready to use APC are also feasible for kitchen cleaners? I think that it could be too low for kitchen cleaners.	**Comment accepted.** For CDV thresholds, it is proposed to align the kitchen cleaners with the sanitary cleaners for this revision as comprehensive data was not obtained on this type of product.
		A lower value is possible for the ready to use sanitary products. I propose 60000. [Based on the values of the products licensed in Belgium are much lower (DID 2007 and DID2014).]	**Comment accepted.** As toilet cleaners are included in the sanitary cleaners, the limit cannot be lowered too much. If in future revisions it is considered judicious separating sanitary cleaners from toilet cleaners, than that threshold can be lowered.
		In my opinion the value for undiluted sanitary cleaners is too high. If some undiluted sanitary cleaners could meet the 80000	**Comment accepted.** As the higher CDV values for RTU sanitary cleaners are mainly for toilet cleaners, which can rarely be found in undiluted form (often

<table>
<tr><td></td><td></td><td>for 100gr in the current criteria, probably every undiluted sanitary cleaner will meet 70000 this for e.g. a dosage of 10gr.</td><td>professional undiluted sanitary cleaners are used also for toilets), the CDV for undiluted sanitary cleaners is proposed to be lowered to 45 000 but not lower, due to lack of data. This threshold can be lowered in the next revision as more specific data is gathered.</td></tr>
<tr><td></td><td></td><td>A.I.S.E. is of the opinion that for hard-surface cleaning products the CDV should be applied to the unit for use.
In practical terms it means that the CDV should be aligned whether the product comes diluted from the factory or whether the product is to be diluted by the client.
According to the current criteria, the selling of RTU is favoured against the selling of concentrated products.</td><td>Comment rejected. The formulations of RTU and undiluted products is different due to different requirements and often applications (e.g. RTU products are favoured by consumers while undiluted products are popular with professionals).</td></tr>
<tr><td></td><td></td><td>We propose:
<table><tr><td>Product type</td><td>Limit CDV</td></tr><tr><td>All-purpose cleaners, RTU</td><td>330 000 as we proposed in first comments. The average for our certified products is 32921 for 100g (DID List 2007).</td></tr><tr><td>All-purpose cleaners, undiluted</td><td>12 200 as proposed in the first draft; In any case, this value can’t be > 18000 as currently. The average for our certified products is 11907 (DID List 2007)</td></tr><tr><td>Window cleaners, RTU</td><td>37 000 because the average for our certified products is 3606 for 100g (DID List 2007).</td></tr><tr><td>Window cleaners, undiluted</td><td>3700 because the average for our certified products is 3606 for 100g (DID List 2007).</td></tr><tr><td>Sanitary cleaners, RTU</td><td>Maybe we can reduce again this value >> 500 000 The average for our certified products is 42255 for 100g (DID List 2007).</td></tr></table></td><td>Comment acknowledged. While it is important for the JRC to know the values for the different countries, it is impossible to align the EU Ecolabel thresholds with the averages for a single country as that is not representative of the EU28 market. The proposed values will, nevertheless, be taken into account in the new proposal.</td></tr>
</table>

		Sanitary cleaners, undiluted: Maybe we can reduce again this value >> 50 000 The average for our certified products is 42255 for 100g (DID List 2007)	
		How are the CDV for RTU products calculated (without the spreadsheet it's difficult to visualise if the limits are right) ¡? Is it considered that dosage = 1000g/L? If so, the CDV values seem to be ok for the RTU products. For the APC undiluted, the CDV value seems to be really high. The previous value was 18 000 g/L (decision 2011).	**Comment accepted.** For RTU products, it is considered that the density is close to 1g/ml.
		Window cleaners, RTU: 48.000 is too low for these products, please consider 75.000 which is the same as the Nordic Eco-label (Nordic Swan)	**Comment rejected.** The data gathered on these types of products have shown that many products have no problems meeting the 48 000 threshold and that most of the CDV impact comes from fragrances, which should be minimised in EU Ecolabel products.
HSC		Discrepancy There is still a discrepancy in the limit CDV value between RTU and undiluted for APCs, Window cleaners and Sanitary cleaners. One litre of "in use" undiluted or one litre RTU do have different CDV limits. At all three types of cleaners the difference is a factor 10. Since CDV value of a product is a measure of environmental waste impact it is hard to understand that EU-Ecolabel prefer RTU over a undiluted. All measures and criteria of EU-Ecolabel should be the same for RTU and undiluted at the "in use" concentration at least for CDV as environmental waste impact measure.	**Comment acknowledged.** Lowering the CDV thresholds for RTU products to be aligned with those proposed for undiluted products would result in almost no RTU products being able to be awarded an EU Ecolabel (increasing the undiluted threshold to that of RTU products is impossible as it would allow almost all products on the market to pass). RTU products are mainly aimed at consumers and we have to acknowledge the fact that in many parts of the EU28, fragrances play an important part for these types of products and, as such, that is why the thresholds proposed for RTU products are higher than for undiluted products.
DD		Silicates are an important ingredient of dishwasher detergents and for those silicates the Tf in de DIDlist became lower (2,5 to 2,07). So I would like to suggest not to lower the CDVtox value to much because for silicates the cdvtox value will be anyway higher with the new didlist. I think that lowering the CDVtox with 20% can be too much.	**Comment accepted.** The change of the TF for silicates from 0,25 to 0,207 represents an increase of around 20%. To take this into consideration and knowing that the amount of data provided by stakeholders on existing formulations was extremely limited, the new thresholds proposed are 10% lower than the existing ones for dishwasher detergents.
HDD		This value is maybe too restrictive. We collected 200 values and only 50% will be compliant with the new value (and we have to remember that the DID list has changed). In the first draft, we proposed 2500. Maybe this value is more acceptable.	**Comment accepted.** The new proposed value takes into account that the updates included in the DID list lower the values of HDD because of the updated (and much higher) TF values for amphoteric surfactants but as it is based on data from a single CB, the new proposed threshold is of 2500, which still represent a significant decrease – 1/3.

3.9 Biodegradability

3.9.1 Feedback from stakeholders from the 1st and the 2nd AHWG meeting

Table 65 Stakeholder comments regarding biodegradability

PGs	Criterion areas	Stakeholder comments	IPTS analysis and further research
Stakeholder's feedback after the 1st AHWG meeting			
All	Comments supporting keeping the criterion on biodegradability of surfactants	We are in favour of the criterion that surfactants should also be biodegradable under anaerobic conditions. Waste water treatment plants are not always present and they do not biodegrade everything. We believe the setting of a criterion for the biodegradability of organic substances is relevant. For example polycarboxylates are used.	**Summary of discussions** During the 1st AHWG and the subsequent consultation issues of anaerobic biodegradability generated polarised views without a resolution to the debate. One group of stakeholders follows the SCHER opinion that anaerobic biodegradability is a poor predictor of the ultimate fate and impact of materials released into the environment, largely because anaerobic conditions do not persist in the domains where other organisms are exposed to the chemicals, and chemicals are largely aerobically biodegradable. The other group contests the assertion around exposure under anaerobic conditions, in particular citing the potential fate in Waste Water Treatment Plants (WWTPs) where they may attach to certain lipophilic sludge and thus made inaccessible to removal into an aerobic environment, but may ultimately end up spread on agricultural land. There are however studies which demonstrate that even when there is a high surfactant sludge load, once the sludge becomes aerated, such as in its use for agricultural purposes, it will be degraded rapidly as all surfactants used in detergent products have to comply with the requirement of ultimate biodegradation. More details on biodegradability in general and on the discussion regarding using anaerobic degradability as a criterion in environmental evaluation can be found in Section 7.9 of the 1st Technical Background report (JRC 2014).
All		Due to the adsorption capacity of lipophilic surfactants, they tend to end up in the sludge of the sewage treatment plant where they are inaccessible to aerobic degradation mechanisms. If these surfactants are additionally low anaerobic biodegradable, there is a high risk that they will be discharged in agricultural soils.	
All		In line with the environmental excellence of the EU Ecolabel products, BEUC and EEB fully support the restriction of organic substances and mixtures that are aerobically or anaerobically non-biodegradable in all product groups.	
All		BEUC and EEB are pleased with the common approach proposed by the JRC to require aerobic and anaerobic biodegradation of all surfactants and appreciate this significant improvement. Indeed, given the fact that most of the aquatic environment has aerobic conditions but not all of it, and given the number of existing products in the market that contain surfactants that are anaerobically biodegradable, we are convinced that it is highly desirable to require the biodegradability of surfactants under anaerobic conditions as well, which fulfils the EU Ecolabel goals and its underlying precautionary principle.	
All		We support the criterion.	
All		We support that all surfactants shall be biodegradable under anaerobic conditions.	
All		All surfactants shall be biodegradable under anaerobic conditions, also the anionic surfactants.	

All		Norway supports this criterion.	
All		We support that All surfactants shall be biodegradable under anaerobic conditions (non-ionic, cationic and anionic)	
All	Comment supporting changing or removal of the criterion	As reported in § 7.9.1.1 Biodegradability of surfactants (p. 422-423): "... in contrast to the 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". Following this conclusion, it is difficult to understand the position taken to set anaerobic biodegradability as a required criterion for every type of surfactants. Why the detergency related ecolabels are not all harmonized following the example of Industrial and Institutional Laundry Detergents for which an exemption is maintained for anionic and amphoteric surfactants (cf. revised version of § 2.8.5, p. 119)? By the way, for most detergency related ecolabels, the revision proposed involves to demonstrate the anaerobic biodegradability of not only non-ionic and cationic surfactants but also of anionic and amphoteric surfactants. Why such a significant revision? Why the concept of thresholds for non-aerobically biodegradable surfactants is not maintained anymore? Besides, should it be reminded that the last revised version of the DID-list contains very few data on amphoteric surfactants (7 amphoteric over about 300 surfactants listed). Considering the increasing importance of amphoteric surfactants on the detergency market (see attached), is the proposed requirement for anaerobic biodegradability of real relevancy in the context of environmental performance?	
All		There are four issues in the new criteria I like to rephrase to make the criteria more environmental friendly and keep focus on improvements: Issue 4 – Anaerobic biodegradability We like to refer to the several discussions on the complexity EU-Ecolabel criteria we think anaerobic biodegradability can be taken from the list of criteria. Almost a waste water become in an aerobic environment. To get an minor improvement on an already very environmental unfriendly system like septic tanks. And most often the non-biodegradable waste from that tank is still degraded aerobically. By taken of this anaerobic biodegradability criteria the impact to the environment will be negligible. A positive impact will be the a few very good aerobic biodegradable and low toxic surfactants will be useful in EU-Ecolabed products.	
All	Limit values	The good approach to biodegradability for us has to be based on an investment on research, before lowering limits indiscriminately. Ecolabel should invest on research on complex systems and molecules life cycles, especially in the anaerobic biodegradation field.	

		The European regulation 648/2004 limits are made on a solid base data, it would be reasonless to lower those limits on a weaker data base.	
All	Alternative criteria proposal	Proposal for new criteria formulation: "Surfactants classified with H400 and H411 are derogated from the criterion on Excluded and limited substances and mixtures, section b, provided that they are both readily and anaerobically degradable. Surfactants classified with H412 are also derogated from the criterion on Excluded and limited substances and mixtures, section b"	Following additional consultation with stakeholders a counter-proposal to the revised criterion was received provided by the industry association. This proposal corresponds to what JRC has raised also during the EUEB meeting in April, i.e. possibility of linking the requirement of anaerobic biodegradability with the hazardous profile of surfactants, and consequently, potential environmental impacts. According to the proposal, surfactants classified with H412 and the non-environmentally classified surfactants would not need to meet the criteria of anaerobic biodegradability. The more severely classified surfactants would however have to fulfil the additional requirement of anaerobic biodegradability. In the current criteria in the derogation section it is required that surfactants classified as aquatic chronic toxic, i.e. H411 and H412 shall be derogated provided that they are ready degradable and anaerobically degradable. The derogation for H411 applies at present only in the criteria for hand dishwashing detergents. It is expected that the approach in which only H411 classified surfactants are requested to be anaerobically biodegradable will not gain stakeholders support, as expressed in their comments. It is proposed to link the requirement on anaerobic biodegradability to surfactants classified as hazardous to aquatic environment.
All	Ultimate aerobic biodegradability and ready biodegradability	Confusion between ultimate aerobic biodegradability and ready biodegradability (= ultimate aerobic biodegradability + 10-day time window). Under Regulation (EC) No 648/2004 (Detergent Regulation), only ultimate aerobic biodegradability is required.	**Comment accepted** Clarification added in the report Under Detergents Regulation, surfactants are required to meet the criteria for ultimate aerobic biodegradation. In the case of industrial or institutional detergents containing surfactants derogation may be requested under specified in the directive conditions. Ultimate degradation is the degradation of the substance to CO_2, biomass, H_2O and other inorganic substances. The current EU Ecolabels requirements are set for ready degradability.

All	Definition of rapid degradation in CLP Regulation	Regulation (EC) No 1272/2008 has been amended by Commission Regulation (EU) No 286/2011 of 10 March 2011 (see below); Section 7.9.1.3 shall be amended accordingly. "Substances are considered rapidly degradable in the environment if the following criteria hold true: (a) if in 28-day ready biodegradation studies, 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, unless the substance is identified as an UVCB or as a complex, multi-constituent substance with structurally similar constituents. In this case, and where there is sufficient justification, the 10-day window condition may be waived and the pass level applied at 28 days; or (b) if, in those cases where only BOD and COD data are available, when the ratio of BOD5/COD is ≥ 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."	**Comment accepted.** Respective changes were introduced.
All	Reference to mixtures	Degradability, adsorption/desorption and bioaccumulation are not relevant concepts for mixtures; they are meaningful only for single substances.	In the definitions sections the word mixture was removed from phrasing "ingoing substances and mixtures" and the criteria ware revised accordingly.
Stakeholder's feedback after the 2nd AHWG meeting			
ALL	General comments the biodegradability of surfactants	In the previous criteria for I&IDD, biodegradability was required for all surfactants. Why is it suggested to only limit anaerobic biodegradability to surfactants classified as hazardous to aquatic environment? In France companies don't have difficulties to be in compliance with the previous criterion.	**Clarification** Split views among the stakeholders. The proposal was discussed also at the EUEB level. The proposed compromise approach was agreed along the consultation process, taking into account the SCHER opinion and the precautionary concerns of certain stakeholders. The anaerobic biodegradability is required for surfactants classified as hazardous to aquatic environment. For other hazard classifications no derogation is given for surfactants in this criteria version so they cannot be used above the agreed cut-off limit.
ALL		BEUC and the EEB recognize the improvement that has been brought to this requirement in line with our previous recommendations. However, BEUC and the EEB strongly recommend ensuring the biodegradability under anaerobic and aerobic conditions for all surfactants, regardless of their classification. BEUC and the EEB disagree with the exception made to surfactants classified as hazardous to aquatic environment. In compliance with the precautionary principle, it is of high importance to make sure that all surfactants are covered by this requirement.	

		Furthermore, there are today enough anaerobically biodegradable surfactants available on the market and there is no reason not to fulfil our demand. It is indeed feasible for manufacturers to produce products where all surfactants are anaerobically biodegradable. Indeed, among the surfactants that are included in the DID-list database and have been tested, 43 out of 97 are anaerobically biodegradable, 46 are not tested, or test results are not yet published. In addition, BEUC and the EEB recommend using better anaerobic testing methods providing a representative testing environment in order to properly define the anaerobic biodegradability. As the standardized anaerobic test methods such as EN ISO 11734, OECD 311, might not always be the most appropriate ones, other test regimes for anaerobic biodegradability should be considered in addition, in case they are carried out in real, representative and relevant environments. These conditions are crucial to ensure the reliability of the tests and avoid misleading conclusions. For instance, marine sediment which was used when testing the biodegradability of LAS as presented in the technical report is real but not a representative environment. This could lead to misleading and inaccurate results regarding the biodegradability of LAS. Another example is provided by a study which demonstrates that LAS is not anaerobically biodegradable in a reasonable time. Indeed, in a new article where commercial detergents wastewater was treated in an anaerobic fluidized bed reactor (FBR) the average chemical oxygen demand (COD), removal efficiency was 89% and the biodegradation of LAS was 57% during the 489 days of anaerobic FBR. This cannot be compared with the standardized test methods carried out over maximum 60 days and demanding a result of 60% degradation.[1] The biodegradability of LAS is then longer than expected. [1]Biodegradation of linear alkylbenzene sulfonate in commercial laundry wastewater by an anaerobic fluidized bed reactor, Journal of Environmental Science and Health, Part A: Toxic/Hazardous Substances and Environmental Engineering, 2015, http://www.tandfonline.com/doi/pdf/10.1080/10934529.2015.1030290#.Vh6htitaZNU.	
ALL		We can´t see that there is enough evidence that the surfactants not biodegradable under anaerobic conditions will not remain in the soil when the sludge is spread on the fields. Therefore, all surfactants shall be anaerobically biodegradable. The precautionary principle should be used.	
ALL	Comments	All surfactants shall be anaerobically biodegradable, not only the classified.	

ALL	against the 1st AHWG proposal	Denmark suggests that all surfactants shall be anaerobically biodegradability.	
		In line with the previous proposal, we propose that surfactants should not fall under the restrictions for anNBO (anaerobically Non Biodegradable Organics)	
		A.I.S.E. understands that, compared to the existing criteria, the current proposal will cover more organic compounds. A.I.S.E. thinks that the proposal made seems to be based on very limited data.	**Clarification.** The proposal introduces a harmonised approach across all six product groups. Biodegradability criterion for organic compounds was previously applied in four out of six product groups. For HDD and HSC wide stakeholders' consultation and data collection was conducted among manufacturers and EU Ecolabel CBs.
	Comments supporting keeping the 1st AHWG proposal Formulation of the criterion	We highly welcome this proposal.	
		I agree with the proposed revision of the anaerobic biodegrability criterion.	
		The regulation context shall be precised: "All surfactants classified as hazardous to aquatic environment according to Regulation EC no 1272/2008 (CLP) shall be in addition anaerobically biodegradable."	**Comment accepted.** Change introduced
ALL		For six detergents product groups, Can you confirm that surfactants classified H400 and H412 shall be in addition anaerobically biodegradable?	**Clarification.** This is correct.
	Data collection	Criterion 2 - It may be difficult to get data for the requirement of anaerobic degradability of surfactants, and the tests are very expensive.	DID list contains information for a number of surfactants. The current proposal requires information on anaerobic biodegradability only for classified surfactants.
HDD and APC		We were asked to send to JRC data of products awarded by us. For this purpose we ask JRC to provide an excel-sheet where these values are calculated from the formulation otherwise this would be too time-consuming for us.	**Comment accepted.** The excel sheet was provided to CBs and licence holders.
HDD	Threshold values	The proposed values for hand dishwashing detergents seems to high. I did some first calculations and hand washing detergents contain only very small organic components that are not biodegradable (often only parfum and colors) which mean 0 to 0.0022g/1L washing water	**Comment accepted.** Following the 2nd AHWG meeting additional data was collected. In total information for 28 products were provided. The ranges for aNBO and anNBO are respectively: - 0,0 – 0,03 g/l dishwashing water - 0,0 – 0,05 g/l dishwashing water In additiona analysis of the current licenced products was conducted, which covered however only anNBO for surfactants. Nearly 20% of HDD contained small amounts of anNBO surfactants in max amount of 0,13 (the current threshold was 0,2). The initially proposed threshold for anNBO is slightly lowered in the new proposal based on the analysis of data received.

DD		For anNBO the limit is proposed to be lowered from 5,5 to 3,0 g/kg wash. A.I.S.E. does not agree with the change that is proposed.	**Comment rejected.** The proposal is based on the analysis of the data collected from the current licences. Based on the additional analysis of the values collected the threshold was set at 4,0 g/kg wash.
I&IDD		A.I.S.E. believes that the current limits are already very strict so we don't agree with this change. For hard water it is said that the value for anNBO can be lowered to 1 g/l of washing solution. A.I.S.E. does not agree with this proposal. Hard water conditions require the use of certain ingredients that may not be anaerobically biodegradable and this value will limit the use of such, e.g. phosphonates and polycarboxylates. A.I.S.E. would like to see more substantiation on this proposal.	**Comment accepted.** Due the short period of validity of the criteria, as discussed along the consultation process, and following the requests from concerned stakeholders, it is proposed to keep the currently valid thresholds until the next revision of the criteria where more data is available to properly evaluate the strictness of this criterion.
APC		We suggest to keep the current limits for surfactants anaerobically non-biodegradable (anNBO) given the lack of data available on this issue and the different opinions about the real danger of these components for the environment.	In the revised version of the criteria there will be no values for anNBO of surfactants. Instead it is proposed to set values for all organic compounds, harmonising the approaches used in the criterion on biodegradability across all six product groups.
ALL	Assessment and verification	On the basis of which criteria should one conclude on the ready biodegradability of a surfactant? (1) According to the OECD 301 guidelines (ready biodegradability tests), a substance must reach biodegradation rates ≥ 60% ThO2/ThCO2 in 28 days AND must fulfill the 10-day time window criterion for being considered as readily biodegrable (except 301C). (2) According to the CLP Regulation, the 10-day time window criteria can be waived for UVCB surfactants for which it is anticipated that a sequential biodegradation of individual structures is taking place. (3) According to the DID-list part B (version 2014), substances reaching biodegradation rates ≥ 60% ThO2/ThCO2 in 28 days are placed in the same category (""Readily biodegradable""), whether or not the 10-day window criterion is fulfilled. The latter criterion is only considered for the determination of the Degradation Factor. In the end, the ""ready biodegradability"" concept shall be clearly defined in the ecolabel criteria with a specific mention about the 10-day time window criterion (should it be applied or not? under which conditions?). A simple reference to a legal text is not enough.	**Clarification**. As also included in the recent criteria for these products groups, as surfactants are mixtures with varying composition the 10 days window principle does not apply to them. This is also in line with REACH Guidance on Information Requirements and Chemical Safety Assessment, Chapter R.7.b: Endpoint specific guidance (ECHA-16-G-02-EN, February 2016). A clarification on this will be included in the User Manual.

3.9.2 Verification

Indications for aerobic biodegradability tests set out by the CLP Regulation (amended by Commission Regulation (EU) No 286/2011 of 10 March 2011) 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 hold true:

(a) if in 28-day ready biodegradation studies, 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, unless the substance is identified as an UVCB or as a complex, multi-constituent substance with structurally similar constituents. In this case, and where there is sufficient justification, the 10-day window condition may be waived and the pass level applied at 28 days; or

(b) if, in those cases where only BOD and COD data are available, when the ratio of BOD5/COD is ≥ 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 documentation which needs to be provided to prove compliance with requirements on biodegradability is given in the below text, which in the current criteria is included as Appendix in the legal criteria text. It is proposed in the revised criteria to have this annex uploaded at the EU Ecolabel website, in order to be able to update or complement it in a more flexible way, shall the development in the area of testing for degradation take place.

Appendix (to be placed on the EU Ecolabel website)

Documentation of ready biodegradability

The test methods provided for in Commission Regulation (EU) No 286/2011 for rapidly 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. In addition to the criteria the following Appendix, explaining the verification procedure for ready and anaerobic biodegradability, will be placed at the EU Ecolabel website and in the User Manual (with additional explanations):

3.10 Excluded and restricted substances

Feedback from stakeholders received for the 1st and the 2nd AHWG meeting is presented for each single sub-criterion in below sections.

3.10.1 Sub-criterion (a): Specified excluded and restricted ingoing substances

Table 66 Stakeholder comments regarding specified excluded and restricted ingoing substances

PGs	Comment area	Stakeholder comments	IPTS analysis and further research
Stakeholder's feedback after the 1st AHWG meeting			
All	Exclusion of specific substances	Part A) During the AHWG meeting I understood that substances that are listed in criterion 3 part A could not be used at any concentration. But in the current criteria is written as a general information "all intentionally added substances of which the concentration in the final product is higher than 0,01% have to comply with the criteria except criterion 1 is valid at any concentration. This confused me. What is the intention of part A? To forbid them at any concentration or all substance above 0,010% in the final function? Including when they are present as an impurity? This should be very clear.	**Comment acknowledged.** The criterion as it was written indeed could be interpreted that all ingredients present above 0,010% w/w, with exception of fragrances, preservatives and colouring agents to which no minimum concentration limit is applied. In order to clearly indicate which substances are excluded regardless of the concentration a modification is introduced in the wording.
All		Some of the substances mentioned under "a" (The product shall not be formulated or manufactured using any of the following compounds) are already excluded by "b" (Table 31- Hazard statements) due to their harmonized classification and labelling. So for instance Formaldehyde receives a classification according to Annex VI CLP as follows: H301, H311, H314, H317, H331, H341, H350. The H-Statements H301, H311, H331, H341 and H350 are already excluded by "b". The same is the case with 2-bromo-2-nitropropane-1,3-diol which receives a harmonized classification as follows: H302, H312, H315, H318, H335, H400. The H-statement is already excluded by "b". It is therefore proposed to delete substances from list "a" which already fulfil excluding H-statements from "b" due to their harmonized classification.	**Comment partially accepted.** This is correct. Nevertheless, as indicated above some substances are excluded regardless of the concentration or above 0,010% w/w.
All	Harmonised list of excluded substances	BEUC and EEB support the JRC proposal to extend the exclusion list of harmful substances and mixtures. However, we would like to highlight some inconsistency in the prohibition of hazardous substances. Certain substances are banned in some product category but not in others. We fully support an ambitious, harmonized approach regarding the exclusion of harmful substances.	**Comment accepted.** Requested also by several competent bodies in order to simplify the process of applications when the same applicant applies for several different products.

All		In general, suggesting homogenize for all applications and all product groups the sub-criterion: Specified excluded ingoing substances and mixtures. We don't find very logical, for example: for using the 2-bromo-2-nitropropane-1,3-diol (widely used as preservative) in IILD, LD or cosmetic products and it can't be used in HDD. It is true that there are substances that are specific for certain products groups but it doesn't mean that they can't be excluded also in the decisions of other groups. Therefore, also suggesting homogenize for all applications and all product groups all derogations.	**Comment accepted.** A common list is proposed in the revised criterion.
All		We highly welcome that the criteria of the single detergent product groups shall be harmonised as much as possible. A variety of differences in the criteria are the result of individual discussions where different stakeholders took part and/or different times when the decisions have been established but not because of scientific evidence. Therefore it is wise to undertake a common revision of the whole detergent group. This will ease the work of the competent bodies and the producers who apply for the EU Ecolabel. One aim should be that there is a common list of "Excluded or limited substances and mixtures" as manufacturers of raw materials have to check and fill in declarations on each raw material used in the products to be awarded. If there is a need for differences in the excluded or limited substances we have to think about an easy way to declare this but should keep a general declaration sheet for practical purposes.	**Comment accepted.** See above.
All	General hazard phrases list	We ask to delete H304 (May be fatal if swallowed and enters airways) from the list of excluded hazards. This hazard phrase was introduced as a lot of accidents children swallowing oils for fragrance lamps occurred. There is no danger in our point of view that the cleaning agents are swallowed and in that seldom case other ingredients might even be much more dangerous. Especially for solid products it cannot be argued why this classification of one ingredient shall not be allowed. Classification of the mixture is obliged in the following case From CLP: "3.10.3.3.1.1. A mixture which contains a total of 10 % or more of a substance or substances classified in Category 1, and has a kinematic viscosity of 20,5 mm 2 /s or less, measured at 40° C, shall be classified in Category 1." The classification depends on the kinematic viscosity of the mixture which can only be measured or predicted depending on all other components. So, if at all a criterion shall be introduced for this classification, only the classification of the mixture makes sense.	**Comment accepted.** The list of H statements is agreed for all EU Ecolabel product groups horizontally and it is proposed to keep the same list consistently across all product groups.
All	Microplastics	Austria strongly asks to exclude microplastic particles.	**Comment accepted.** Microplastics used as abrasives in detergent and cleaning products are proposed to be excluded

All	Endocrine disruptors	Although the method to define endocrine properties of a substance remains unclear, BEUC and EEB strongly support the exclusion of known endocrine disruptors in EU Ecolabel product as they result in fertility troubles in all organisms including human bodies.	Some stakeholders during the 1st AHWG meeting expressed their support to excluded substances classified as endocrine disruptors. However, the Commission is still working on the criteria for classification of these substances. At present impacts assessment is being conducted. JRC IPTS closely follows this process. Nevertheless, a list of substances classified as endocrine disruptors will not be available in the near future. Until then, and due to the lack of criteria, a general exclusion of those substances cannot be made, but it is possible to exclude specific chemicals due to their known negative impacts on human health and the environment.
	Perborates	Perborates are not used due to CMR classification	**Comment accepted.** Sodium perborate and perboric acid (CAS numbers 15120-21-5; 11138-47-9; 12040-75-1; 7632-04-4; 10332-33-9; 13517-20-9; 37244-98-7 and 10486-00-7) have been classified as toxic to reproduction in category 2 and 3 in 2008 and 2009 when the Commission adopted Directives 2008/58/EC3 and 2009/2/EC4 amending Dangerous Substances Directive 67/548/EEC. In May 2014 a Member State Committee support document for identification of sodium perborate, perboric acid and sodium salt as a SVHC because of its CMR properties (ECHA n.d.). And in June 2014 they were included on the Candidate List of SVHC for Authorisation. Due to this fact and in accordance with the EU Ecolabel Regulation they cannot be used in EU Ecolabel products, see the sub-criterion (c), and consequently can be removed from the list in sub-criterion (b)
	APOEs and APDs	Even though APEO is phased out in Europe, we recommend keeping this criterion. We still find small amounts in some ingredients for other product groups, and the producers should be aware of it.	Stakeholders queried the necessity of explicitly banning substances such as APEO and APD which are already out of use in common industry practice. The alternatives for detergents and cleaning products are mixtures of anionic and nonionic surfactants (for instance linear alcohol ethoxylates, fatty acids and derivatives, fatty amines or unsaturated hydrocarbons). 'The Detergents Regulation' refers in its background to nonylphenol and ethoxylates derivatives, which were at the time of publication undergoing safety review. Some of these substances had been identified as substances of high concern requiring efforts to limit human exposure. Though, their formal exclusion was not within the scope of the Regulation. Industry
		This is not compulsory as industry does not use APEO or APD anymore due to the non-compliance with detergent regulation	

			respondents noted that, according to trade guidelines, such materials had ceased to be used in laundry products. Nevertheless, in accordance with the study prepared for the Danish Environmental Agency (Lassen, et al. 2013) some amounts of 2,6-di-tert-butyl-p-cresol and nonylphenol ethoxylates were still used in some cleaning and maintenance products. It was noted that EU Ecolabel is a voluntary scheme and its implications might therefore not be foremost in the minds of upstream reagent suppliers, where APEO/APD might appear as minor components, by-products or impurities in substances supplied to formulators. Other environmental schemes like the Nordic Swan and the Blue Angel also keep the ban of use of APEOs and derivatives thereof. In addition only few of these substances have a harmonised classification. Accordingly, there was a countering view that the specific exclusion of APEOs and APDs should be retained so that applicants should positively ensure that these substances had not inadvertently been included.
All	Nanomaterials	EEB and BEUC support the ban of nanomaterials because of the current lack of appropriate methodologies to assess their inherent properties and risks to the environment, consumers and workers. Nanomaterials such as nanosilvers are not yet clearly defined and solutions for a better definition are not sufficiently developed and harmonized. The EU Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR) concluded that: "Current risk assessment methodologies require some modification in order to deal with the hazards associated with nanotechnology (…). The Committee points to major gaps in the knowledge necessary for risk assessment. These include nanoparticle characterisation, the detection and measurement of nanoparticles, the dose-response, fate, and persistence of nanoparticles in humans and in the environment, and all aspects of toxicology and environmental toxicology related to nanoparticles." Taking this into account, nanomaterials have to be excluded in the EU Ecolabel based on the precautionary principle and as long as compliance with the general requirements on chemicals cannot be proven.	The agreed position of the Commission services in respect to nanomaterials is that at the time being EU Ecolabel criteria cannot address nanomaterials differently than other chemical substances, as there is no scientific evidence that would justify a different approach. This implies also that nanomaterials cannot be banned as such from EU Ecolabelled products; only specific nanomaterials of concern, like nanosilver, can be banned, if solid scientific evidence supporting the ban is there. In the provisions of the general Assessment and Verification it is required that the applicant shall list all ingoing substances mentioning (beside the ingoing quantity and the function of the substance) the ***form of the substance*** as it is present in the final product formulation. In the assessment and verification of the criterion on chemicals is it also requested that a declaration of compliance shall be provided that none of the substances present in the product meets the criteria for classification with one or more of hazard statements ***in the form(s) and physical state(s) they are***

		Nanomaterials are being used in cleaning products. Examples can be used in the French nanoregister and this voluntary database. This is not limited to nanosilver. Nanosilicium dioxide, synthetic amorfsilicium dioxide and titanium dioxide are also used. We only want to allow the use of nanomaterials under the following condition. We would only allow the use of nanomaterials and substances at nanoscale in the following conditions independently of the amount produced: All the relevant nanoforms were identified (inter alia form (solid, liquid,...), production method, functionality, localization in the product if still present in the end product/in intermediate products (surface, matrix,...), number size distribution, surface, shape and surface treatment)[1] • Have been submitted to a Chemical Safety Assessment (CSA) equivalent to the CSA performed in REACH, and considering the differences between the various nanoforms of a given substance. If the quantity of the used nanomaterial is below 10T per year, then the data requirements for the CSA will be equivalent to the REACH CSA for 10T per year. • An independent toxicological Committee (like SCCS) approves the use based on the CSA. • The CSA takes into account the nanomaterial's specificities, the latest JRC reports, ECHA and OECD guidance's, and in general the best available techniques and latest data. • This risk assessment include specific exposure scenarios linked with the requested applications for normal use and indirect emissions (scour , ageing, wear off). So that a high level of protection of human health (including workers safety) and the environment along the lifecycle of the product is ensured. The presence of the nanomaterial may not make the recyclability of the product more difficult. All the requested information should always be submitted to the Competent Body. [1] To be specified in the user's manual	***present in the product***. Thus, the verification process compliance needs to be ensured for the specific form of the substance, for instance the nano-form.
		Besides the points mentioned above, one more issue pointed out by EC experts on chemicals refers to the possibility of labelling nanomaterials in detergent and cleaning products. There is already legislations in force (e.g. for food, cosmetics) which introduces labelling of nanomaterials in certain products. For instance the Cosmetics Regulation 1223/2009 requires that *'All ingredients present in the form of nanomaterials shall be clearly indicated in the list of ingredients. The names of such ingredients shall be followed by the word 'nano' in brackets*. Ít does not ban use of nanomaterials but facilitates transparency towards costomers. The expert advised considering a similar approach for detergent and cleaning products and which is proposed to discuss it during the 2nd AHWG meeting.	
Stakeholder's feedback after the 2nd AHWG meeting			
All	Harmonised list of excluded substances	Please replace the table of the excluded substances by the one general used – for example Atranol and Chloroatranol aren't mentioned here although fragrances aren't allowed for this product group at all. Then a general declaration sheet for all product groups can be generated which eases applications a lot.	**Comment accepted.** In the last criteria version two lists were created to reflect the differences between certain product groups (e.g. the total ban on fragrances in IIDD products). Following the request only one

			list is created in the revised criteria to allow for use of a harmonised declaration for all product groups; even if it is understood that certain substances are more relevant for some product groups than for others. Additional exclusion of fragrances in IIDD products and of certain solvents in HSC, will be included in addition and separate declarations will be created for them.
All	Formaldehyde residues	Traces of formaldehyde may still be present in some raw materials i.e. phosphonates. It would be more practical to assign a maximum threshold limit, as for example with NTA.	**Comment accepted.** This issue was discussed in the 2nd AHWG meeting and the EUEB meeting. Use of formaldehyde as preservative is banned in the EU Ecolabel detergent and cleaning products. Nevertheless, small amounts of formaldehyde can be formed during manufacturing and storage or certain surfactants, like alkoxylated fatty alcohols, which are of high importance in these product groups. Stakeholders agreed that exemption for this small amount of formaldehyde shall be included in the revised criteria. According to information received this residue can amount up to 0,02% w/w in the ingoing substance. It is thus proposed to allow this exemption up to this level.
All	EDTA	EDTA must be replaced buy "EDTA (ethylene-diamine-tetra-acetic-acid) and its salts.	**Comment accepted.** Change introduced
All	Isothiazo-linones	Isothiazolinones and especially MI shall be included on the list (no limit).	See additional information on isothiazolinones in section 2.10.1.2.
All	Fragrances requiring naming a on label	To make this criterion more clear, there should be added "...shall not be present in the final product in quantities...." (see virtual CB forum question november 2011)	**Comment accepted.** Change introduced.
All	Nanomaterials	Due to the precautionary principle, the lack of studies and the lack of appropriate methodologies to assess the risk to human health of nanomaterials, we suggest banning all nanomaterials in the 6 criteria. Moreover we fear that putting the word 'nano' in brackets after the name of such ingredients would be prejudicial to the EU Ecolabel image."	**Comment rejected.** As explained along the revision process, nanomaterials cannot be excluded as entire substances group, but can be restricted on single substance basis, based on justification about their potential impacts (for instance nanosilver is excluded explicitly).
All		If nanomaterials cannot be addressed differently, it is at least something that they should been mentioned on the packaging. I couldn't find this in the proposals of the criteria and it wasn't presented at the AHWG nevertheless in my opinion this is a good idea as a first step.	**Comment accepted.** In the Cosmetics Regulation 1223/2009 it is requested that "All ingredients present in the form of nanomaterials shall be clearly indicated in the list of ingredients. The names of such ingredients shall be followed by the word 'nano' in brackets". A similar requirement could be added in the EU Ecolabel for

			detergents, which does not have such a requirement through the respective regulation so far. This will partially respond to the requests from the stakeholders related to the issue of nanomaterials use in detergent and cleaning products.
All		NGOs strongly welcome the exclusion of microplastics in the 6 product groups. With regard to their definition, we support the proposal made by the German competent body in alignment with the Blue Angel criteria for Hand Dishwashing Detergents: Plastic particles ranging in size from 100 nm to 5 mm. Plastic should also be defined as follow in alignment with the Blue Angel criteria: Plastic: A macromolecular substance with a water solubility < 1 mg/L, obtained through: a) a polymerisation process such as e.g. polyaddition or polycondensation or a similar process using monomers or other starting substances; or b) chemical modification of natural or synthetic micromolecules; or c) microbial fermentation"."	**Comments acknowledged.** Following the discussion along the criteria revision process it was agreed to exclude microplastics from the EU Ecolabel for detergents and cleaning products. As explained in the 2nd Technical Background Report a broad range of definitions, which are not entirely compatible is currently available. More coherence between the definitions is needed at the EU level. Following the proposal made during the consultation process the current criteria will refer to the definition of microplastics contained in the Blue Angel label.
All		Micro plastic is micro plastic and should not be defined according to the function. If producers claims that the function is other than in this definition would be permitted – which is not the intention.	
All		Can you specify what is meant by "microplastics"? Can you provide a clear definition of this term?	
All		Initially our proposal was to add the word solid: "microplastics" means solid plastic micro beads used as a scrub/abrasive material in detergent and cleaning products. We were recently made aware of a more exact definition agreed by EFFIC (EU federation of cosmetic ingredient suppliers): "synthetic plastic micro particle" as any intentionally added, non-water soluble, solid plastic particle used to exfoliate or cleanse in rinse-off personal care products; where "Plastic" is defined in this context as a synthetic material made from linking monomers through a chemical reaction to create an organic polymer chain that can be molded or extruded at high heat into various solid forms retaining their defined shapes during life cycle and after disposal. Therefore maybe the definition herewith could be adapted as follows: "synthetic plastic micro particle/bead" as any intentionally added, non-water soluble, solid plastic particle used as a scrub/abrasive material in detergent and cleaning products where "plastic" is defined in this context as a synthetic material made from linking monomers through a chemical reaction to create an organic polymer chain that can be molded or extruded at high heat into various solid forms retaining their defined shapes during life cycle and after disposal. It is important to distinguish soluble polymers from microplastics.	

3.10.2 Sub-criterion (b): Hazardous substances

Table 67 Stakeholder comments regarding hazardous substances sub-criterion

PGs	Comment area	Stakeholder comments	IPTS analysis and further research
Stakeholder's feedback after the 2nd AHWG meeting			
All	Criterion formulation	Can you confirm that classifications H334 and H317 apply only to substances and not to mixtures? Clarification	**Clarification** ' Classifications H334 and H317 refer to single substances and to the final product classification.
All		Why did you delete EUH029, EUH 031 and EUH032? Why did you replace EUH059 by H420?	**Clarification** These classifications refer rather to occupational health and safety and not to the final product. Content of the final table with hazard classification was agreed in the framework of the 1st Horizontal Task Force on Chemicals.
All		The word processing is not clear to me, does this means during the production or does this include also during the use phase e.g. the washing in the washing machine	**Clarification** The word processing refers in general to production processes. The below text is indeed vague, and specifically for formulations, where ingredients of the mixture can be identified easily, does not seem to bring much added value. It seems to be more suited for complex articles where e.g. adhesives and other chemical products are used in the finishing processes. The constituent components of the chemical product can undergo changes and do not remain on the final product. Another example are alloys, which contain nickel, but in a form which is not bioavailable. This issue will be discussed in the framework of the 2nd Horizontal Task Force on Chemicals in order to come to a more understandable interpretation. It is proposed to remove this phrase form the criteria text for detergent and cleaning products.
All		"Ingoing substances which change their properties upon processing (e.g. become no longer bioavailable or undergo chemical modification) so that the hazards no longer apply and that any unreacted residual content of the hazardous substances is less than 0,010% w/w are exempted from this criterion x(b)". - Which substances will this be relevant for? Explanation and examples shall be in the User Manual.	

3.10.3 Derogation requests

3.10.3.1 Surfactants

Table 68 Stakeholder comments regarding surfactants

PGs	Comment area	Stakeholder comments	IPTS analysis and further research
Stakeholder's feedback after the 1st AHWG meeting			
All	Final product classification	Surfactants classified as H412 which are readily biodegradable: these are classified on the bases of chronic toxicity-test only. Some new concentrated liquid laundry detergents contain these surfactants in amounts above 25% which means that the product will be classified H412. Do we exclude these products? This must be discussed at the next AHWG-meeting. We understand that the allowance of the use of such classified surfactants should not lead to the final product being classified for the environment.	**Comments acknowledged.** There was no general agreement whether classification of the final product could be harmful to Ecolabel and should be avoided or whether certain classification could be allowed in order to promote more concentrated products.. A pictogram on the package is not considered helpful for the EU Ecolabel image. Therefor one of the considerations is whether to allow classification which do not carry pictogram at the product label. This topic will be discussed during the 2nd AHWG meeting
All	Derogation for surfactants	In terms of the derogations for classified surfactants, we would like to see and harmonisation across all product categories. We think that surfactants classified as H412 should not need to meet the criteria of anaerobic biodegradability and should still be allowed, as long as they are readily biodegradable.	**Comment acknowledged.** A hybrid proposal was received from AISE and will be presented for consideration at the 2nd AHWG meeting.
Stakeholder's feedback after the 2nd AHWG meeting			
All	Harmonised derogation for surfactants	We propose to harmonize the derogations for H400 and H412 for surfactants for all products to 25% to ease implementation of the criteria.	Split views among stakeholders. In the 1st Technical Annexe (JRC 2014) information on the contents of

IILD	Derogation for final product classification with H412	Should be 25% at least in line with other product groups Should be also considered to include a derogation for H412 for the final product due to the fact that more and more surfactants are classified as H412 and for I&I applications, we use concentrated surfactants formulations as wetting booster during the washing process. Non classified surfactants are less efficient and need a higher dosage without having the same efficiency. So for IILD a derogation is requested to keep a performance level of Ecolabel washing processes.	surfactants was collected. As given in the below Table (for details on references see Table 34 of the Annexe) the contents of surfactants in different products vary a lot:
All	Thresholds	For six detergents product groups. We think 25% is unusually high value because we have not 25% of surfactants in our formulations, so it is possible to reduce this value. For example 20%.	
All		Derogation for surfactants H400 and H412 has to be retained but the concentration of 25% is much too high. I think this can be lowered to maximum 10% for APC. All purpose cleaners doesn't even contain 25% active matter (even most of the concentrated products with e.g. dilution rate of 1/500). For HDD and LD the % active matter is higher, but also for these product groups the % can be lowered e.g. to 20%	
All		I agree with the proposal.	
		We strongly disagree with the use of surfactants classified as H400 and H412 as they are very toxic to the environment and this is not acceptable in sustainable and ecological products. If the derogation is kept, we highly recommend lowering the threshold of the derogation as this is much too high. It has been recognized by the Belgian competent body, that many products can comply with a much lower threshold than 25%. As the product groups are very different from each other, we recommend at least analysing the average amounts of surfactants with different H statements used in the products before suggesting different limits.	

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	
Window cleaner	15	
Hand dishwashing detergent	9	16
Concentrated hand dishwashing detergent	20	39

Information on average amounts of different classified surfactants per product group is unfortunately not available to the project team to support setting appropriate thresholds. A summary of discussions and the proposal are contained in Section 2.10.2.

3.10.3.2 Fragrances

Table 69 Stakeholder comments regarding fragrances

PGs	Comment area	Stakeholder comments	IPTS analysis and further research
Stakeholder's feedback after the 1st AHWG meeting			
DD	Exclusion of fragrances	Perfumes should not be allowed in dishwasher detergents, they have a significant environmental impact, they are not beneficial for the cleaning process and since they are used in a dishwasher the consumer will not be able to enjoy their smell.	This issue was discussed during the meeting and no agreement was reached. Split views exist between stakeholders. Use of fragrances is already banned in IIDD products. No consensus over its extension to other product groups was achieved. It is however clear that the amount of fragrances used is limited through the CDV requirement. It was also mentioned that fragrances fulfil masking function for other ingredients odour. Discussion on this topic will be continued in the 2nd AHWG meeting.
IIDD /IILD		All fragrances should be banned in professional products	
All	Exclusion of fragrances	We welcome the JRC proposal to add hydroxyisohexyl 3-cyclohexene carboxaldehyde (HICC), Atranol and Chloroatranol to the list of specified excluded ingoing substances and mixtures in sub-criterion (a). This exclusion is fully justified by their strong sensitizing properties tending to cause skin allergies. However, we still have concerns about fragrances in general in EU Ecolabel products. BEUC and EEB would like to stress once more the fact that fragrances are not needed elements since they do not contribute to maintaining a high level of efficiency. Awarding an EU Ecolabel to a product that contains superfluous hazardous substances would undermine the credibility of the label.	
Stakeholder's feedback after the 2nd AHWG meeting			

All	Clarification on the criterion formulation	At the last October AHWG meeting, in the context of the H412 derogation for fragrances, there was a discussion whether the term "fragrance" refers to a "substance" or a "mixture" and the Commission asked the different stakeholders for comments. After carefully reading the proposed text, IFRA do not see the argument can be applied to the fragrance mixture, we believe it applies to the substance itself. Looking at the proposed legal text (attached) for Laundry detergents: Article 2 defines ingoing substances: 'ingoing substances' means substances intentionally added, by-products and impurities from raw materials in the final product formulation (including water-soluble foil, if applicable)". No mention of mixtures. Criterion 5 part b "Hazardous substances" states the "product shall not contain ingoing substances meeting the criteria for classification as toxic, hazardous to the environment, and as interpreted according to the hazard statements listed in Table 3". "Any ingoing substance present at a concentration above 0,010% w/w in the product shall meet this requirement…..". This table 3 contains H412 as derogation for perfumes. This language is the same for all the other product categories where the H412 derogation exists (APC, HDD, DD and IILD). Summarising, according to IFRA's understanding, the term "fragrance" refers to a single substance.	**Clarification** The requirement in the currently valid criteria refers to single substances, not to mixtures.
All		Can you confirm that classifications H334 and H317 apply only to substances and not to mixtures?	**Clarification** These classifications apply to the single substances and to the classification of the final detergent or cleaning product.
All	Derogation for the final mixture	A.I.S.E. welcomes the maintenance of the derogation for all consumer products and the extension to IILD. A.I.S.E. is of the opinion that the derogation is for the final mixture.	**Clarification** This second issue was discussed at the Competent Body Forum in January 2015. The derogation in the currently valid criteria refers to single substances, as this information is available to Competent bodies in SDS of a fragrance mixture.
All	Opinion supporting keeping the current derogation	We recommend to keep the current derogation for fragrances classified with H412, given the importance in the product and the high rate in the CDV evaluation.	Discussion on the derogation for fragrances can be found in Section 2.10.1.

All	Against the derogation	Regarding fragrance with classification H412 we will repeat what was said previously in the development of the criteria. You can get fragrance which is not classified H412. It might mean that a producer need to change supplier of fragrance or a fragrance needs to be reformulated – but it is technical possible. Denmark have also argued that it is questionable that a fragrance has a technical function in these product groups and having the knowledge that it is technical possible to develop products (and also with fragrances) without H412 the requirement according to the regulation is no longer present. In the technical report p171, it is referred that there was a general agreement among stakeholders that the derogation should be kept. But in order to have a derogation formal derogation requirements shall be meet, which is NOT the case for H412 and fragrances. Denmark cannot support a derogation for fragrances.	
All		The derogation for perfume classified with H412 is only needed in LD. A lot of perfumes (the mixture) are classified as H412 but as in the current criteria we have to look to the ingredients and not to the classification of the mixture most of the perfumes used in HDD and APC will pass the criterion without derogation for the APC and the HDD (because the substances of the perfume classified as H412 are present in a concentration less than 0,010%).	
All	Opinions supporting ban on fragrances in detergent and cleaning products	We urge the JRC to extend the ban of fragrances in IIDD to all the other product groups. Fragrances should be indeed excluded from all product groups as they do not improve the cleaning efficiency and are not needed in the product formulation to be performant. Fragrances can be very harmful to the consumers, causing allergies, skin irritations or asthma. In addition, these substances are also very toxic to the environment as they are often classified as H412: Harmful to aquatic life with long-lasting effects. If fragrances are restricted but not banned from Ecolabel products, we highly recommend to set clear and specific requirements on fragrances as ingoing single substances and not as part of a mixture. Fragrances should be indeed evaluated as a single product and all the substances present in fragrances should comply with the requirements on hazardous substances.	**Clarification** Fragrances will be evaluated on a substance and not mixture basis (as requested), which means that they have to fulfil the requirements of the criterion on hazardous substances (CLP classification screening). According to information collected, fragrance suppliers can provide information on the mixture composition, which allows then for evaluation of single substances. We understand the concerns regarding fragrances, and therefore, although a general exclusion of fragrances was not proposed, several additional restrictions are in proposed to exclude the use of harmful fragrances: - exclusion of fragrances of special concern, as HICC, Atranol and Chloroatranol, certain musks, - restriction of fragrance substances subject to the declaration requirement provided in Detergent Regulation (EC) No 684/2004 above 100 ppm, - due to high contribution to CDV value, indirect limitation of their content, - exclusion of fragrances classified as sensitizers (i.e. with H334

			and H317) above 100 ppm.
IILD		Fragrances should be banned in this product group. The stuff working with laundry and the guests at the hotels, for instance, have not chosen to be exposed to the fragrances in the laundry detergents used.	**Clarification** This is an area with very split views among stakeholders and MSs representatives. A compromise solution is to allow use of fragrances but to set additional restrictions on those of special concern, as explained in the above comment.

3.10.3.3 Preservatives

Table 70 Stakeholder comments regarding preservatives

PGs		Stakeholder comments	IPTS analysis and further research
Stakeholder's feedback after the 2nd AHWG meeting			
All	Derogation for preservatives	I don't think that we need derogations for biocides. All the biocides with a classification are used in very low concentrations (less than 0,010%).	**Clarification** The EU Ecolabel is expected not to fulfil only the legal requirements (Biocide Regulation requirements), but to go beyond them. Extensive consultation was conducted with CBs and the biocide industry representatives. As the content of biocides in detergent and cleaning products is very low, below 100 ppm, the derogation for any hazard classification was considered not necessary. Manufacturers association was contacted and consulted on the use of preservatives in the product groups and the information provided in their position paper. No further derogation request with rationale
		As requested by IPTS Denmark has analysed several products in all 6 product-categories and our conclusion is that a derogations might not be needed any more. If needed they shall be more product specific (e.g. only for liquid product). If needed they shall not be harmonized in all product groups and good arguments shall be presented by producers in each product category.	
		By considering the current derogation for the enzymes H317, we request that the same derogation is granted for fragrances and preservatives.	

All		During the review period, A.I.S.E. has presented the following proposal to JRC: A.I.S.E. supports the harmonisation of criteria/derogations for preservatives across the detergent product categories. However, we do not have a complete overview of which preservatives are used in which products nor of their future classification under CLP. Preservatives are subject to extensive review under the BPR (on-going) process – which already ensures environmental and human health safety – coupled with CLP (harmonised classification). Preservatives are essential to control damage caused by micro-organisms which grow fast in presence of water and organic matter (all water-based detergents). Such damage means that without preservation, products would deteriorate and become wasted within a few days. This is obviously an important consideration in the context of sustainability, shelf-life and waste reduction. We propose that preservatives approved under the BPR process should be allowed 'by default' in ecolabelled products, regardless of their environmental or human health classification. For preservatives not having been approved under the BPR process yet, a horizontal derogation for environmental classification could be temporarily granted across product categories and revised/confirmed/removed as soon the active has been approved under BPR. We believe the derogation should be extended to substances classified as sensitisers, provided the preserved mixture (=the detergent) is not itself classified H317 or H334, since the majority of common preservatives are classified as skin sensitising. Bearing in mind the low levels of preservatives contained in mixtures, and the fact that their presence is mentioned on product labels, the user can avoid exposure and products can continue to be used safely The H statements that need a derogation in our view are: H400, H410, H411, H412, H413, H317 and H334. We have assessed the EBPF proposal and we can also express support for the more simple approach of EBPF.	and technical justification was provided following this consultation.

3.10.3.4 Enzymes and subtilisin

Table 71 Stakeholder comments regarding enzymes and subtilisin

PGs	Commented area	Stakeholders comment	IPTS assessment and further research
Stakeholder's feedback after the 1st AHWG meeting			
LD	Derogations -	Derogations on surfactants, enzymes and NTA as impurity have to be kept for LD otherwise we will not be able to develop efficient Ecolabel product anymore. We guess that derogations for these categories will be handled by the respective associations (CESIO, etc.)	**Comment acknowledged.** Respective associations were contacted regarding necessary information.
HSC	Derogation request for subtilisin	Amfep requests derogation of subtilisin from H400 and H411. The derogation request is attached.	**Comment accepted.** Derogation was received for an enzyme subtilisin used currently in laundry and dishwasher detergents. Supporting information provided is summarised in Section 2.10.1.
LD		Amfep requests derogation of subtilisin from H411. The derogation request is attached. Subtilisin is already derogated from H400 in accordance with Decision 2012/49/EU.	
DD/ LD		Enzyme is already derogated in Detergent for Dishwashers and Laundry Detergent from H400 in accordance with Decision 2012/49/EU.	
All		A.I.S.E. supports the position presented by AMFEP during the 1st ADWG meeting (i.e. the derogation request for subtilisin).	
LD		Is the criterion on enzymes of relevance for other products? Addition of enzymes in other product groups would be interesting.	Analysis of extending the derogation to all detergent product groups will be discussed in the 2nd AHWG meeting.
Stakeholder's feedback after the 2nd AHWG meeting			
HSC	Derogation request for subtilisin	Subtilisin is also used in APC, so we can permit this also in APC.	Split views among stakeholders. Industry association shared technical information substantiating derogation for hand dishwashing detergents; while for HSC products very little information is available so far and the derogation was nor proposed at this stage.
All		A.I.S.E. supports the request of AMFEP for a derogation for subtilisin classified as H400 and H411 for all the detergent product groups.	
HDD and HSC		There is no reason to add this derogation. No applicant asks us for this. We agree with the harmonization for main criteria but we have to keep several specifications if necessary.	
HDD and HSC		We do not support the extension of the derogations to subtilisin, one of the available protein-removing enzymes, in HDD and ACP regardless their concentration as they are classified as very toxic to the environment.	**Clarification** Subtilisin is proposed for derogation in HDD products only. In the justification for the derogation information on the nearly complete degradation of subtilisin in waste water treatment plants and during use and transport to the sewer system was provided.

			The derogation found broad support of the stakeholders due to its beneficiary function of washing/cleaning at lower temperature of water (which is the main environmental hotspot).

3.10.3.5 Peracetic acid and hydrogen peroxide

Table 72 Stakeholders comments on derogation for peracetic acid and hydrogen peroxide

PGs	Stakeholders comment	IPTS analysis and further research
Stakeholder's feedback after the 1st AHWG meeting		
IILD IIDD	A.I.S.E. would like to ask for a derogation for peracetic acid and hydrogen peroxide.	**Comment accepted.** According to comments from several CBs, there have been hardly any I&I products licences because of lack of derogation for peracetic acid. Analysis of the derogation request was conducted.
IILD	Derogation dossier has been submitted for H400, H410, H411 and H412. Derogation for hydrogen peroxide is also compulsory as peracetic acid cannot exist without hydrogen peroxide. Peracetic acid is indeed commercialized as a stabilized mixture at equilibrium of peracetic acid, hydrogen peroxide, acetic acid and stabilizers.	
IILD	See derogation request for further details	
All	We would like to see a harmonisation across all product categories that are used in a machine.	Information provided in the derogation request substantiated granting derogation for IILD only. Additional technical information indicating environmental benefit and lack of alternatives would be needed in order to grant derogation to other product groups.
Stakeholder's feedback after the 2nd AHWG meeting		
	Please consider to differentiate Peracetic acid and Hydrogen peroxide into 2 lines as we do not talk about the same classification. Peracetic acid derogation is OK Classification of Hydrogen Peroxide as 100% is H412 and needs then a specific line for derogation on H412 as long as the final product is not classified with H412.	**Comment accepted.** Change introduced.
	A.I.S.E. welcomes the derogation but would like to alert that the H412 phrase is missing and is needed because of hydrogen peroxide.	**Comment accepted.** Change introduced.

3.10.3.6 ε-phthalimido-peroxy-hexanoic acid (PAP)

Table 73 Stakeholders comments on derogation for ε-phthalimido-peroxy-hexanoic acid

PGs	Stakeholders comment	IPTS analysis and further research
Stakeholder's feedback after the 2nd AHWG meeting		
All	In addition to that the derogation of PAP for laundry shall be mentioned in general which wouldn't have any effect on the formulations of the products other than laundry detergents but: Then a general declaration sheet for all product groups can be generated which eases applications a lot.	**Clarification** A harmonisation would definitely simplify the application process and it was conducted as far as possible (for instance a harmonised list in sub-criterion (a)). However, in the case of derogation a clear request was made in the revision process not to harmonise, where it is not justified.

3.10.4 Sub-criterion (c): Substances of Very High Concern (SVHCs)

Table 74 Stakeholder comments regarding SVHCs

PGs	Stakeholder comments	IPTS analysis and further research
Stakeholder's feedback after the 1st AHWG meeting		
All	Delete the reference to Regulation 66/2010 and formulate the requirement as a ban of the use of substances listed as SVHC and vPvB and on the candidate list. No lower limit.	**Comment accepted.** The criterion was reformulated accordingly.
All	Substances identified as substances of very high concern.....shall not be intentionally added to the product. No lower limit. We take it for granted that no derogation proposed is in this group of substances. Delete the reference to regulation 66/2010 - this is guidance to the criteria development and irrelevant for the applicant. The reference to Regulation 1272/2008 should be in a footnote.	

Stakeholders raised few comments related to the wording of this criterion, the necessity of references to EU Ecolabel and CLP Regulation. Accordingly, the text of the proposed harmonised criterion has been reviewed and simplified. In the measurement threshold clear indication that SVHCs should not be present in the final product regardless of the concentration is given.

3.10.5 Sub-criterion (d): Fragrances

Table 75 Stakeholder comments regarding fragrances

PGs	Stakeholder comments	IPTS analysis and further research
Stakeholder's feedback after the 1st AHWG meeting		
All	The fragrances manufacturer already proved an IFRA declaration and a declaration specifying the content of each of the substances in the fragrance listed according to the annex VII of regulation (EC) nº 648/2004. We don't believe necessary that the applicant must sign another declaration of compliance when, before, the fragrance manufacturer has signed it. And the fragrance manufacturer is who know full composition.	**Comment accepted** Reworded the assessment and verification to make it clear that it is possible to get verification from the fragrance manufacturer.

3.10.6 Sub-criterion (e): Preservatives

Table 76 Stakeholder comments regarding preservatives

PGs	Stakeholder comments	IPTS analysis and further research
Stakeholder's feedback after the 1st AHWG meeting		
All	Part D) Why is it no longer mentioned that the amount of biocide present can only be in a concentration to preserve the product. And that the product cannot claim antibacterial properties?	**Comments accepted.** The phrases regarding levels only being used sufficient for preservation and ban on microbial claims have been reintroduced in all criteria.
All	We strongly believe that only biocides with preservative properties should be allowed in EU Ecolabel products. We are very concerned about the removal of the following text: "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."	
All	BEUC and EEB suggest it should be clarified that the EU Ecolabel should not be awarded to detergents which are biocidal products. This is a requirement of Article 69(2) of the biocidal products regulation (EU No 528/2012) that prohibits biocidal products to be marketed with environmental claims. Since the Ecolabel is a label of environmental excellence, biocidal products with an EU Ecolabel would contradict the general EU Ecolabel philosophy and confuse consumers by harming the credibility of the EU Ecolabel.	

All	The thresholds reported in the text are in line with Directive 67/548/CEE but not with Regulation (EC) No 1272/2008 (BCF = 500, log Pow = 4). As Directive 67/548/CEE will be replaced in June 2015 by Regulation (EC) No 1272/2008, the BCF and log Pow thresholds mentioned in the text should rather be 500 and 4, respectively.	Although the impending Regulation (EC) No 1272/2008 specifies new thresholds for BCF and log Pow, it was agreed at the EUEB level that for the purpose of Eco-labelling the stricter thresholds pertaining to Directive 67/548/CEE should be retained. EU Ecolabel has always sought to apply standards that meet or exceed legislative requirements in order to promote leading edge performance. In addition it should be noted that under REACH the values for bioaccumulation are also different to the ones of CLP (e.g. the BCF value is 2000). The currently valid values for BCF and log Pow are kept in the revised criteria.
All	The values for a preservative not being considered as bioaccumulating should be aligned with REACH, as follows: BCF < 500 and log KOW < 4.	
All	According to CLP Regulation part 4 (environmental hazards) the criterion for the potential for or actual bioaccumulation is given in table 4.1.0 as: the experimentally determined BCF ≥ 500 (or, if absent, the log Kow ≥ 4). It is proposed to overtake this criterion into d (Biocides) as well as f (Colorants).	
Stakeholder's feedback after the 2nd AHWG meeting		
All	Comment for the 6 criteria: Preservatives are biocidal products classified PT6 in the biocidal products regulation N° 528/2012. We suggest adding a sentence as folows in criterion 5b of each criteria: Preservatives should be used in accordance with the biocidal products regulation N° 528/2012.	**Comment rejected** This is a legal requirement manufacturers have to comply with.
All	Preservatives classified as H317 (may cause an allergic skin reaction) should not be derogated. Isothiazolinones should be excluded as they can cause harm to human health. They can indeed cause skin and eyes irritation, and are strong skin sensitizers.	**Clarification** Preservatives are not proposed to be derogated. Discussion on isothiazolinones is provided separately in section 2.10.1.2.
All	In contrast to our proposal from September the threshold limit for preservatives shall be 0,01 % according to this table. We can only accept this if there is no derogation for any H-statement as preservatives aren't used in concentrations above this limit.	
All	The growing knowledge of the properties of MIT (methylisothiazolinone) calls for action against the group of isothiazolinones, especially, in product groups with regular skin contact, besides rinse-off cosmetics, this at least also includes hand dishwashing- and the group of detergent cleaners. Denmark proposes to at least exclude methylisothiazolinones from these detergent groups with regular skin contact, and introduce other (and low) concentrations for other isothiazolinones. From a communication point of view a total exclusion of isothiazolinones from all the detergent groups could be discussed.	
All	This conservative approach makes sense... as long as it scientifically justified. Would it be possible to provide the rationale used at the time Directive 67/548/CEE was implemented to support the thresholds of 3 and 100 for log Pow and BCF, respectively?	**Clarification** This approach has been agreed at the EU Ecolabelling Board level. Information supporting the thresholds in the Directive 67/548/CEE could not be obtained.

3.10.7 Sub-criterion (f): Colouring agents

No comments received along the consultation process.

3.10.8 Sub-criterion (g): Enzymes

Table 77 Stakeholder comments regarding enzymes

PGs	Commented area	Stakeholder's comment	IPTS assessment and further research
Stakeholder's feedback after the 1st AHWG meeting			
DD IIDD/IILD	Horizontal alignment of the requirement that "Enzyme must be in liquid form or dust-free granulate" Purity requirement	Form of enzymes Amfep agrees on the proposal from the Commission. Description of form of enzymes is not horizontally aligned. The following text shall be used for all criteria. "*Enzyme must be in liquid form or dust-free granulate*". Free from micro-organism remnants In Decision 2003/31/EC, purity of enzyme was required in Criteria 7; "The enzyme production micro-organism shall be absent from the final enzyme preparation." This requirement was removed in the next revision (Decision 2011/263/EU). It is because Amfep communicated with the Commission that time that the commercially available enzyme products for detergent and cleaning products do not contain production micro-organisms. The situation is to date unchanged. Because of progress of the modern biotechnology, Genetically Modified Micro-organisms (GMM) are used for manufacture of enzymes used for detergent and cleaning products in EU. This technology ensures manufacture of the targeted enzyme in high purity. The manufacture process must comply with the contained use laid down in Directive 2009/41/EC. Thereby it is not necessary to revive the purity requirement.	**Accepted** The following text in included in all criteria documents "*Only enzyme encapsulates (in solid form) and enzyme liquids/slurries shall be used*". See additional information below.
LD / IILD	Use of enzymes	Starting with the assumption that we recognize and have proof of the very good performance given by enzymes in general, they should not be excluded nor included indiscriminately. Their GMO based synthesis has to be studied in depth, evaluating among other things the different "generations".	**Comment acknowledged.**

3.10.9 Sub-criterion (h): Corrosive substances

No comments were received on the corrosive substances criterion and therefore no changes are proposed to this criterion in this revision, apart from those due to entering into force the classification in accordance with Regulation (EC) No 1272/2008 (CLP Regulation).

3.10.10 Sub-criterion (removed): Micro-organisms

As indicated in Section 2.10.9, detergent products containing intentionally added micro-organisms do not fall under the Detergents Regulation as stated in Question 7.9 of FAQ concerning the correct implementation of the Detergents Regulation (European Commission 2011). As the scope of the EU Ecolabel criteria for all detergent and cleaning product groups refers to the scope of the Detergents Regulation, it follows that such products do not fall under the scope of any of the EU Ecolabels revised in this project. In light of the scope of the Detergents Regulation, no specific criterion for products containing micro-organisms is proposed in any of the EU Ecolabel criteria at this stage. Should the scope of the Detergents Regulation change in the future, an amendment could to be introduced addressing such products.

Included below is the proposal that was made during the 2nd AHWG meeting and in the 2nd Technical Report (JRC 2015), *no* changes have been introduced to the criteria text, all proposals for changes made by the stakeholders can be found in table below the criterion text proposal. A complete explanation of the reasoning behind the requirements proposed can be found in Section 8.12.11 of the 2nd Technical Report (JRC 2015).

Common text proposal as published in the 2nd Technical Report
(i) *Identification*: all intentionally added micro-organisms shall have an American Type Culture Collection (ATCC) number or belong to a collection of an International Depository Authority (IDA) (ii) *Safety*: all intentionally added micro-organisms shall belong to: Risk Group I as defined by the Directive 2000/54/EC – biological agents at work The Qualified Presumption of Safety (QPS) list issued by the European Food Safety Authority (EFSA) (iii) *Absence of contaminants*: pathogenic micro-organisms, as defined below, shall not be in any of the strains included or in the finished product when screened using the indicated test methods or equivalent: E. Coli, test method ISO 16649-3:2005 Streptococcus (Enterococcus), test method ISO 21528-1:2004 Staphylococcus aureus, test method ISO 6888-1 Bacillus cereus, test method ISO 7932:2004 or ISO 21871 Salmonella, test method ISO6579:2002 or ISO 19250 (iv) all intentionally added micro-organisms shall not be GMO (v) *Antibiotic susceptibility*: all intentionally added micro-organisms shall be susceptible to each of the five major antibiotic classes (aminoglycoside, macrolide, beta-lactam, tetracycline and fluoroquinolones) in accordance with the EUCAST disk diffusion method or equivalent. (vi) *Microbial count*: products in their in-use form shall have a standard plate count equal or greater than $1x10^5$ Colony Forming Units (CFU) per ml months according to ISO 4833-1:2014. (vii) *Shelf life*: the minimum shelf life of the product shall not be lower than 24 months and the microbial count shall not decrease by more than 10% every 12 months according to ISO 4833-1:2014. (viii) *User information*: the product label shall include the following information: That the product contains micro-organisms

That the product shall not be used with a spray trigger mechanism That the product should not be used on surfaces in contact with food An indication on the shelf life of the product
Assessment and verification: The applicant shall provide: (i) the name (to the strain) and identification of all micro-organisms contained in the product (ATCC or IDA numbers) (ii) documentation demonstrating that all micro-organisms belong to Risk Group I and the QPS list (iii) documentation demonstrating that the pathogenic micro-organisms are not present in the product (iv) documentation demonstrating that all micro-organisms are not GMO (v) documentation demonstrating that all micro-organisms are susceptible to each of the five major antibiotic classes indicated (vi) documentation of CFU per ml of in-use solution (for undiluted products, the dilution ratio recommended for "normal" cleaning shall be used) (vii) documentation of CFU per ml of in-use solution every 12 months for a product stored until the end of its shelf life. If the applicant is seeking an EU Ecolabel for a new formulation and such data is not available, the applicant shall provide the Competent Body with the information within one year. (viii) a copy of the product's label

Table 78 Stakeholder feedback on micro-organisms

PGs	Stakeholder feedback	IPTS analysis and further research
Comments after the 1st AHWG meeting		
LD	We think that there is not enough information about this kind of products, it is difficult define the concept of micro-organism and applications.	**Comment accepted.** An explanation on the concept of migro-organisms in detergents and cleaning products is provided in the section below, along with market data and application data.
APC	Our company develops and produces cleaning agents for professional and household use, which contain probiotic microorganisms. The microorganisms used are all classified as food grade (class 1 - used for preparation of food stuffs, i.e. lactic acid bacteria). They do not only clean better than conventional chemical based cleaners, the surfaces cleaned are also free of other (pathogenic) microorganisms and studies have shown, that the cleaning effect stays longer than with comparable conventional cleaners or even disinfectant cleaners (see results of Master thesis "FH Wels" and results of "University of Applied Life Sciences, Department of Food Hygienic, Vienna". Both studies compare conventional cleaners and disinfectant with our "probiotic" cleaning range, which consists mainly of positive microorganisms. This is why - in our opinion - the EU Ecolabel should not exclude cleaners, which contain microorganisms. Some more studies, which underline the safety our microorganism - based cleaners, are attached: 1. Study about the general cleaning effects 2. Study about the cleaning effects in a school kitchen (compare with chemical cleaners and disinfection and cleaner which contains micro-organisms) 3. Certificate of skin compatibility 4. Certificate of grippy on different flooring materials 5. Certificate for compatibility of different materials (marble, acrylic glass, ...) And at last the good response of our customers and rising on the market and demand.	**Comment accepted.** The section below covers the issues mentioned in this comment (cleaning action of detergents contain micro-organisms, effectiveness, etc.).
Comments after the 2nd AHWG meeting		
Health concerns	During the next revision of the criteria, could the EC lead a study on the threat to human health by micro-organisms used in detergent products? Could the EC especially studies cleaning products containing micro-organisms applied to surfaces also in contact with food?	**Comment acknowledged.** Health and safety is not the main concern of the EU Ecolabel and, as such, no study of the sort was conducted at this stage.
Benefits of products	Regarding the micro-organisms, we hold the view that they should not be allowed in the products as there is for the moment no clear indication on the benefits that they bring to the products. As we cannot support substances without proven benefits, we are calling on the JRC to further investigate and give clear indication on their benefits in the next background report.	**Comment accepted.** No recent studies academic works on the environmental benefits of using microbial cleaning products were found at the time of writing. All stakeholders are asked share any information on such publications they might have with the JRC.

	If not supported, consumers' organisations and environmental NGOs recommend at least setting the same requirements on micro-organisms as in the Nordic Swan criteria for cleaning products.[1] Nordic Swan allows micro-organisms only in professional products and exclude them from spray products. If this second alternative is chosen, BEUC and the EEB recommend the JRC to underpin the inclusion of this requirement by carrying out environmental assessments of the use of products based on microorganisms compared with chemical detergents. It would be very beneficial to show to what extent the use of products containing micro-organisms has less environmental impact than those which are chemical-based. [1] http://www.svanen.se/Templates/Criteria/CriteriaGetFile.aspx?fileID=500, see criterion R14 on micro-organisms.	
CDV	If we allow microorganisms, how should they be taken into account in the cdv tox. As enzymes or are they exempted from this criterion?	**Comments accepted.** The issue of CDV and how to take micro-organisms into account will have to be reviewed if and when they are allowed in detergent products covered by the Detergents Regulation. During the 2nd AHWG meeting a proposal was made to set lower CDV thresholds for microbial cleaning products in order to acknowledge that they claim to contain fewer chemicals.
	Comment about CDV calculation is attached. (Attachment read: CDV about microorganisms: The possibility of including microorganisms on the DID-list was discussed with Nordic Ecolabeling in the context of DID-list revision and it has been decided not to include microorganisms in the calculation of CDV. This is the reason that microorganisms are not included them on the DID-list. The rationale is that: The DID list has been developed for chemicals and not for microorganisms, which are living cells and thus very different from chemical compounds. Microorganisms used in detergents are non-pathogenic and non-toxigenic naturally occurring non-invasive organisms and thus safe for both human and the environment.)	
	CDV and biodegradability: this is not applicable for micro-organisms. They are completely different when compared to regular chemicals and should be exempt for CDV calculation.	
Scope/ definition	Please add to chemical substances also natural substances in the scope. Our products with microorganism consist also natural substances.	**Comment acknowledged.** Currently the EU Ecolabel scope is proposed to stay the same due to the fact that it is aligned with the Detergents Regulation concerning the sole inclusion of chemical substances.
Spray	Our products are almost used with spray bottles. Please delete this sentence.	**Comments acknowledged.** This requirement was proposed as an alignment with the Nordic Swan requirement. As these types of products are new and there are many doubts in the minds of users about their safety, stakeholders are invited to submit any publications that have been made proving the safety of microbial cleaning products, especially when packaged in spray bottles.
	Use in trigger spray: MBCP can certainly be used in trigger sprays. Chrisal doesn't understand the reason for this proposed ban. Normally, this has to do with enzymes in relation to allergic reactions but micro-organisms are no allergens hence no allergic reaction is possible. The enzyme production by the micro-organisms only starts about an hour after application of the product.	

	We do not agree with that. We thing that it should not have difference between biotechnologic product (with bacteria) than with traditional chemical products. It is confusing. Not base on any basis. Biotechnological (Bacterial) products are used/sold in «spray» since many years (under Ecologo program).	
Surfaces in contact with food	Our products with migroorganism have the same effect as disinfectants, it can be also used on surfaces in contact with food. We have studies of the use on surfaces in a school kitchen and an expertise from a consultant for the use of our products on surfaces which are in contact with food. Please delete or fit this sentence.	**Comments acknowledged.** As for the requirement mentioned in the comment above, this requirement was proposed as an alignment with the Nordic Swan requirement. As these types of products are new and there are many doubts in the minds of users about their safety, stakeholders are invited to submit any publications that have been made proving the safety of microbial cleaning products, especially concerning the possible (or impossible) contamination of food products from bacteria left behind after the application of the product.
	Food: it is stated that the product shall not be used on surfaces that come into contact with food. Chrisal thinks this is not necessary; the criteria already state that the micro-organisms shall be on the QPS list of EFSA so there is no safety problem if they come into contact with food surfaces.	
Fitness for use	Comment about efficacy studies (Fitness for use) is attached. Attachement read: Fitness for use for microorganisms: We think that cleaning performance of microorganisms can be tested. Nordic Ecolabelling criteria for cleaning products has the following criteria. Link to the criteria document is http://www.nordic-ecolabel.org/Templates/Pages/CriteriaPages/CriteriaGetFile.aspx?fileID=500 . R14. Products containing microorganisms shall display superior cleaning performance beyond the general cleaning requirements of R15 and R16. It must be demonstrated that the cleaning product can degrade the following: • Protein: degradation of proteins shown as degradation on standard casein agar medium or through other scientifically acknowledged medium displaying protein degradation. • Starch: degradation of starch shown as degradation on standard starch agar or through other scientifically acknowledged medium displaying starch degradation. • Fat and/or vegetable oil: degradation shown as degradation on "Spirit Blue"-agar medium or through other scientifically acknowledged medium.	**Comment accepted.** As these types of products have a different mode of action than regular cleaning products (no or little mechanical action needed to remove soil from surface), if a criterion is to be included on microbial cleaning products, specific fitness for use requirements will have to be developed, as suggested by the stakeholders.
	Fitness for use for cleaning products containing micro-organisms: For microbial based cleaning products (MBCP) it is recommended to ask for external studies or references to illustrate the additional effect.	
GMO	Comment about GMOs is attached. (Attachement read: The Terms "GMO" is not precise in terms of the discussion about microorganisms used for	**Comments partially accepted.** The issue of GMM/GMO will have to be studied further later on, if micro-organisms

	cleaning products. We propose that GMM (Genetically Modified Microorganism) should be used instead. GMM is regulated under GMO legislations http://ec.europa.eu/food/plant/gmo/legislation/index_en.htm. GMM used for cleaning products would fall in the scope of deliberate release of GMO into the environment (Directive 2001/18/EC) where authorisation is required. To best of our knowledge, no GMM has been authorized for cleaning products. In addition, one of the provisions of the directive is "(5) The protection of human health and the environment requires that due attention be given to controlling risks from the deliberate release into the environment of genetically modified organisms (GMOs)" So there is an authorisation process of deliberate of GMM with the clear provision. Even if GMM is once approved for cleaning use according to the requirements in the directive, risks to human and environments for intended use are thoroughly assessed during the authorisation process. Therefore it is our opinion that the ecolabelling does not set a ban for GMMs posing concerns based on vague doubts about safety.)	are allowed under the Detergents Regulation. Concerning the verification, the EU Ecolabel criteria should rely as little as possible on self-declarations that are not supported by documentation.
	We propose to say: Declaration from the manufacturer instead of documentation demonstrating that all micro-organisms are not GMO.	
Resistance	AB resistance: intrinsic resistance should be allowed. ….shall, with the exception of intrinsic resistance, be…	**Comment accepted.**
Identification	These two options are easy for verification by the competent body but very expensive for the applicant. ATTC cost approx 2500$CAN for each strain (for a company that have several strains to register, it could represent lots of money). We think that the DNA identification using 16S ribosomal DNA sequencing method (or other official DNA identification method) should be accepted. Nordic Ecolabel ask for documented DNA identification. Ecologo ask for identification in accordance with an approved strain identification protocol.	**Comment accepted.** Indeed, other types of certifications/proof can be considered for this requirement.
Other	per ml months(typing error?)	**Comment acknowledged.**
Other	We propose to say : standard plate count should be equal or greater than $9X10^4$ CFU/ml after 12 months and $8X10^4$ CFU/ml after 24 months	**Comment acknowledged.**

Other	"An indication on the shelf life of the product" Not necessary most than for chemicals	**Comment acknowledged.** Currently little information is available on the shelf-life of microbial-based cleaning products. Stakeholders are invited to provide information on publications that looked into whether their shelf-life is comparable to that of regular products based on chemical substances.

3.11 Packaging

3.11.1 3.2.1Comments from stakeholders from the 1st and 2nd AHWG meeting

Table 79 Stakeholder comments regarding packaging

Product groups	Comment area	Stakeholder comments	IPTS analysis and further research
Comments after the 1st AHWG meeting			
LD/ IILL/ DD/ IIDD	Packaging	Keep the current criterion.	**Comment accepted.**
LD	WUR	The values vary very much some are just below the limits but others have values as low as 0.31 for professional products sold in bags values are even lower because they are sold in large amounts. Small boxes with only 20 capsules have the most difficulties passing. 1l bottles of super concentrated products pass quite easily as well. This a criterion where a point system could reward the frontrunners. Do we want the small boxes with only 20 capsules ecolabeled (see comments below regarding risks for children and animals)?	**Comment acknowledged.** This comment is in line with what is observed in general – uni-dose products are towards the higher end of WUR values. It is, nevertheless, difficult to propose drastic cuts in WUR as only primary packaging is assessed and if primary packing is too flimsy, then manufacturers might tend to overcompensate with secondary packaging.
LD	Packaging	Super-concentrated products are now at the market. This should be investigated further.	**Comment acknowledged.** More concentrated products can be favoured with lower WUR values. In this revision, it is proposed to align all WUR values for laundry detergents, thus lowering the ones for liquid, tablet and other unidose systems.

APC	Packaging	Good professional products normally have higher contents of active material in the formulation than the domestic ones, when high performances are demanded. That means that the weight of the primary packaging is normally higher for professional products than the ones for domestic cleaning. The WUR looks OK for the packaging from 10 liters up but the WUR should be a little higher for the 5 liters and a little more for the 1 liter packaging. This only for the undiluted products. We suggest a WUR of 1.4 for the 5 liters and 1,6 for the 1 liter for the PE packaging. This weight avoids shrinkage even for concentrated products.	**Comment partially accepted.** The WUR is proposed to be increased to undiluted products as currently they would have a dilution rate of 1:125 in order not to be at a disadvantage compared to RTU products. The issue of shrinkage was not considered during the revision but the additional WUR allowance should allow professional-grade products to pass the packaging criteria with sturdy packaging.
APC	Summary / WUR	I presently have a «exemption» from AFNOR for using packaging that dont respect the RPU limits. This exemption was accepted because the conclusion was that it is not ecological to promote the sales of products «ready to use» rather than concentrated product. My example is for one of our product that we sold in concentrate (to dilute 1/30). If I did the calculations, I can use 30X1.2g = 36g of plastic to bottle 1L of my product. If I choose to sold the same product in RTU form, I can use 10X15g = 150g of plastic to bottle 1L of my product...I can't sold 1 bottle of my concentrated product(impossible to have a 1L bottle that weigth 36g) but I can sold 30 bottles of the same product in the RTU form. We think that the RPU limits for the concentrated products has to be the same than if the product were in RTU form (150g/L). I can't find any discussion about that in the draft	**Comments partially accepted.** The WUR is proposed to be increased to undiluted products as currently they would have a dilution rate of 1:125 in order not to be at a disadvantage compared to RTU products. While not on a 1:1 ratio (as the aim of the criterion is also to encourage products to become more and more undiluted), the proposed WUR thresholds should allow products with a dilution rate of 1:10 to pass the criterion.
APC	WUR	There are four issues in the new criteria I like to rephrase to make the criteria more environmental friendly and keep focus on improvements: 3) Packaging WUR This alternative dilution (explained in the CDV section) alternative can be used for calculating the	

		Packaging WUR.	
APC	Packaging	We ask that if a product is classified as H314 "Causes severe skin burns and eye damage" sprayheads are only allowed in case they are designed in a way that they prevent the formation of aerosols.	**Comment rejected.** It is not the primary objective of EU Ecolabel to concern itself with Health and Safety issues, rather than environmental impacts. However, where such issues can be co-managed, they should be addressed. In the case of potential aerosols of materials subject to risk phrase H314, limited research and consultation suggests that such substances are limited and alternatives have been found in liquid products. Although the same may not be the case for solid products, this format cannot in any case form aerosols. Any residual risks in use should be managed by user instructions, which ought already to be the case for professional products.
APC	WUR	Part a) This could be more clear. When a refill has to be provided, should it be available in every country where the product is placed on the market or could the refill be only available in one of the 2 countries where the product is sold? Should every distributer have to provide both the normal bottle and the refill? Or should both products be sold together? This should be made more clear. Part b) The criterion should be clarified: How should it be calculated when a box of trigger products is sold with only 1 trigger head. Is the trigger reused once or 6 times? Examples could be prepared for the user manual.	**Comments partially accepted.** For Part a),-> "Spray bottles and availability of refills". It is proposed that the presence of the refills on the market is enough and the trigger sprays must not necessarily be sold in a pack with refills. As documentation proving the presence of refills on the market, it is proposed to accept sales figures. For Part b).

APC	Packaging	Concernant l'obligation de proposer des eco-recharges pour les sprays, nous avions démontré par le passé à l'AFNOR qu'il n'y avait pas de marché pour les recharges spray car les consommateurs ne sont pas prêts à acheter ces produits. En effet toute notre gamme de recharge pour spray se vend qu'en quantité très faible depuis sa création. Nous ne souhaiterions donc pas que ce critère soit conservé.	**Comment rejected.** Trigger sprays contribute a significant amount to overall packaging weight and it is already proposed to make it easier for them to be awarded with the EU Ecolabel by increasing the WUR. The requirement that refills should be present on the market is not proposed to be removed as if they are not, customers will never get accustomed to using them.
APC	WUR	Part b) Should the same limits be set for consumer and professional products? Professionals often offer 5L refills which makes it quite easy to pass but for consumers this is not a possibility. Different limits for professional and consumer products seem a way forward.	**Comment acknowledged.** For simplicity and because of the lack of data, no fundamental change is proposed. The EU Ecolabel does not seek to encourage use of trigger sprays in domestic products not part of a refillable system.
HDD	WUR	The proposed limit is extremely easy. Even very small promotion samples can pass this criterion. The WUR calculation should be made more clear, for example by providing examples in the application pack.	**Comment accepted.** The WUR for HDD has been updated based on data received from a stakeholder. Note has been made to include examples of WUR calculations in the User Manuals.
HDD	Packaging	Keep the current criterion.	**Comment acknowledged.**
HDD	Packaging	There is no reason to allow oversized packaging only because it is made of recycled material.	**Comments accepted.** It is proposed to only keep the exemption for packaging containing 80% recycled material. "Recycled material" is to be understood as post-consumer or collected at the distribution stage. See Section 8.13 of the 2nd Technical Report (JRC 2015) for further discussion on this issue.
ALL / IILD	Packaging	We are fully in favour of improving the environmental performance of the packages by promoting reduced use of materials, a minimum amount of recyclable and recycled material in packaging. However, as packages are different according to the product group, it would not be relevant to set common criteria especially for APC. Indeed, the amount of recycled material will be more easily achievable for paper and cardboard whereas it might be more difficult e.g. for PE. While a common criterion for all packaging material will not be possible, we suggest setting different percentages of recycled material according to the material used. For	

		instance, BEUC and EEB propose to require 80% of recycled material for PET and Paper/cardboard.	
ALL	Packaging	The sentence "from sustainable sources" should mention expressly also "recycled" materials.	
ALL	Definition	There is no definition of sustainable sources.	
LD / DD / APC	Packaging	We favour first of all the reuse, secondly the reduction and finally the recycling of packaging. Including plastics form sustainable sources doesn't seem to be the right way forward.	
ALL	Packaging	As for other materials Industrial waste should not be included in the scope. In plastics, especially this type of packaging, the industrial waste recycling is not defined as recycling as the generated waste is directly reuse in the same process.	
LD / DD / APC	Packaging	We support this criterion in principle. Since EU Ecolabel products should set the best example. Because they are only a small portion of the waste fraction to be recycled, this criterion might have very limited added value for the environment in practice. But the EU Ecolabel has trendsetting role ,which the environmental market leader should be.	
All / TA	Packaging	Some requirements on the Body of the packaging should be added. Example: Body: The body of the packaging should be composed of one material (monopolymer). The used material should be transparent or light-coloured.	**Comment acknowledged.** While the commentator's proposal might promote easier recycling, packaging does represent a small portion of the environmental impacts and the EU Ecolabel should concentrate on imposing limits on other areas where the impacts are greater. An effort is already asked from applicants to facilitate recycling through the "design for recycling" requirement found in all packaging criteria.
All / TA	Packaging	Our view is that, except for the soluble films, everything that constitutes packaging (carton, plastic bags,...) should contribute to the packaging load.	**Comment acknowledged.** For simplicity's sake and because packaging has not been shown to play a major role in the impacts associated with detergents, secondary and tertiary packaging is not proposed to be considered.
Comments after the 2nd AHWG meeting			

ALL	Recycled material exemption	We suggest that the packaging containing more than 80% recycled materials shall also provide the calculation of the WUR. However the threshold for this kind of packaging could be different than the other packaging. This revision would permit to be less wasteful and remain in compliance with waste prevention principles.	**Comments partially accepted.** The aim of the exemption is to promote the use of recycled material (circular economy) and the fact that such an exemption can lead to applicants overusing packaging material has never been demonstrated. Indeed, for them, extra packaging material results in higher costs (materials and transport) and does not make sense from an economic point of view. The idea of having two different thresholds for WUR is a possibility but it is unfeasible in this revision. New data would have to be collected by CBs from applicants and communicated to JRC to calculate a proposal for second thresholds.
		There is no reason to exempt recycled materials from this criterion because there is no reason to allow overuse of any packaging material.	
		Delete the sentence. There is no meaning to allow overuse of any packaging material.	
		BEUC and the EEB hold the view that the use of recycled material should be better promoted in ecolabelled products. We suggest that manufacturers should not be allowed to use packaging material that contain less than 80% of recycled material. This threshold should be applied to paper, cardboard and PET materials.	**Comment partially accepted.** The EU Ecolabel attempts not to favour one type of material over another and requiring all types of packaging to be made of at least 80% recycled content is not possible. While the applicants would have no problems meeting the requirement for the three types of packaging listed, for others, it would be nearly impossible or would lead to packaging that contains a lot of dyes and/or is not appealing to users.
HSC	Refills	The criterion “must be sold” is hard to fulfil and hard to control. I want to remind you an a CB-forums-question in October 2011: “A producer was asked by two huge supermarket chains to give an estimate for Ecolabel cleaners (bathroom, kitchen and sanitary) in trigger sprays in the beginning of October. They are able to fulfill all of the criteria. But the retailers presumably won’t fulfill criterion 7d - “Products packaged in trigger sprays must be sold as a part of a refillable system.” Both supermarket chains stated that there is not enough space in the shelves of the stores to place original cleaners plus refill system, therefore they are not willing/able to place the refills in their stores as well. Do you agree that we would have to refuse to award	**Comments accepted.** It is proposed to change the wording to state that "all products sold in sprays must be refillable". This removes the burden of proving that refills are sold along with sprays in supermarkets. Moreover, it is proposed to include the clarification of how to calculate Ri. Ri=1 if it is a single product, Ri>1 if the product is part of a lot (Ri is then calculated based on the refills possible given the product found in the lot).

		these products with the European Ecolabel and as a consequence the producer isn't able to give an estimate? If yes and you see no need to discuss it, I will give our opinion to the producer. As a consequence the number of Austrian licenses for household cleaners will decline in the next time. Or at least they won't go up the same number as they would without this single criterion. I have to admit that we weren't aware of these consequences at the vote in June. One possibility could be to amend the criterion to "Products Professional Cleaners and/or All-purpose Cleaners packaged in trigger sprays must be sold as a part of a refillable system." (or even delete it?). As far as we know refill systems are more common and easier implemented for professional cleaners. Michele would not be very happy but he told me (see above) that he would be willing to amend the criteria. Temporary conclusion: As the criteria are written today, it is not possible to get around this requirement if you have products that are sold in trigger sprays. For trigger spray products the applicant have to offer the costumers a refilling opportunity. Please note that it is not specified in the criteria how this refilling should be, so there is a large flexibility in the interpretation of what is "good enough" for being a refillable system. Could be all from only reusing the spray to a system where costumers in the shop can come and fill up the bottle with new product from a large container.	

		What is important is that the license holder should make sure that they can offer the trigger spray product as part of a refillable system! The practical part of this criteria require an interpretation regarding the controllability: If the applicant is a retailer, who is in control over what the space on the shelfs in the shops are used for, the applicants direct costumer is the consumer and the applicant will have to offer the consumer a refilling opportunity. If the applicant is a producer, who sell the product onwards to retailers, the applicant must assure to offer the retailer to also sell the refill system (meaning a refill system should be produced and be part of the product when marketed/offered to the shops). However the producer-applicant have no control over what the retailers choose to by from him and put on their shelves. He/we cannot force any retailers to by refilling systems they do not want to have. To be taken to the next CB Forum (Yes. But all -purpose cleaners packaged in trigger sprays must be sold as a part of a refillable system)." THEREFORE We propose to either delete this criterion or replace it by Products packaged in trigger sprays should be offered / available as a part of a refillable system. (Meaning that in principle a refillable system is available)	
		Criterion 5 - Packaging material We first develop products and then try to get them listed at the retailers. The requirement that trigger sprays shall be sold as part of a refillable system	

		should be removed, as it makes it up to the retailers to decide which packaging the eco-label authorities will require and in addition leads to unfair competition.	
		Refill System: "Products packaged in trigger sprays must be sold as a part of a refillable system." ... "The applicant shall provide the calculation of the WUR of the product"... "In the case of trigger sprays and the allocation of weight to the primary packaging, this shall be on the basis of pan-European sales data for the product, indicating unit sales of each". It is not easy to define the sales data: for example it refers to one year, or one month of sales data (those data could be different). The Sales data can change along the time and, if the product is still under development, it is not easy to be defined in a preliminary stage 2 Different Proposals: "Products packaged in trigger sprays must be sold as a part of a refillable system." CHANGE TO: 1) The package must comply with the point b of point 4.1 of the ISO 13429; the package must be designed in order to be reused (for example able to make a proper number of actuations; or can be refilled because do not have an unrefillable package/closure like some child proof systems). This point could be fullfilled with technical data of the packaging producer with the same approach used for comply with the reference ISO standard.	

		In this way we can maintain a refill requirement for trigger sprayers packaging. The Technical data below could be used also for Ri parameter in the WUR calculation. removing the Sales data analysis or prevision 2) To remove the refill requirement for sprayers: (this in the case that option 1 is not appreciated); This with the target to avoid a block or difficulties for the ECOLABEL certification process due to the difficulties to in the definition of refillable methods according to the sales data.	
		Regarding the obligation of selling refills when selling spray, we already have an experience few years ago, we put on the market refills for all purpose cleaner, sanitary cleaner and glass cleaner. After 4 years, the refills have not been as successful as we thought. French consumers don't seem to be ready for that. If these refills don't be sold, supermarkets don't permit to put them on the market anymore. So we think it's not a good thing to impose refills for hard surfaces cleaners sold in spray because it's too early in France.	
		There was a corrigendum on this but I don't think that the corrigendum is the right way to interpret this criterion. The problem is that applicants cannot guarantee that triggers and their refills are sold in the same store, because it is not them that put the products on the shelves. This criterion should be reworded e.g. "applicants should be able to provide refills from products packaged in trigger sprays" (see discussion cbforum november 2011).	
		In practice undiluted window cleaners are sold as refill of a diluted window cleaner in a trigger spray. So it should be possible that such an undiluted window cleaner counts as a refill (of course on the condition that the undiluted and the ready to use	

		window cleaner fulfil both the criteria). It would be a good idea to include such an example in the user manual.	
		For six detergents product groups, Only two values must be accepted if the following conditions are met: Ri = 1 if packaging is not reused for the same purpose. Ri = 2 if a refill (the same volume or bigger than this packaging) is provided. It's important to accept refills which are the same volume. We don't agree to award ECOLABEL in two steps. Moreover, after one year, if send values are not realistic pictures of the situation, do we decertify?	
		if a refill (the same volume or bigger than this packaging) is provided. It's important to accept refills which are the same volume as the main packaging.	
		At the meeting we decided to change for "should be" and we can replace "sold" by "available". As Austria, we think that the producer-applicant have no control over what the retailers choose to buy from him and put on their shelves. We cannot force any retailers to buy refilling systems they do not want to have. In particular, on the French market, the refills have not been successful. French consumers don't seem to be ready for that. Our applicants told us that if these refills are not sold, retailers don't permit to put them on the market anymore.	
		It's important to specify that this obligation is applicable for all RTU products packaged in trigger sprays (APC, kitchen cleaners, window cleaners,	

		sanitary cleaners packaged in trigger sprays) and not only for APC as currently.	
		We don't agree to award ECOLABEL in two steps. Moreover, after one year, if send values are not realistic pictures of the situation, do we decertify? It's not acceptable, we have 258 certified products (sold with refills) and we can't check them again after one year.	
IIDD/ IILD	Bulk and take-back systems	In some cases products are delivered in bulk (meaning full truck of 23mT). Is it possible to include this type of packaging? In some cases a take-back system is in place for containers and drums. Nordic Ecolabel considers this in the packaging criteria.	**Comment accepted.** A statement has been added to the criterion indicating that if the manufacturer proposes a take-back system for packaging for a product (to all users), then Parts (a) and (b) of the packaging criteria do not apply.
HSC		Some applicants sell cleaners in containers of e.g. 1000L in a take back system. Take back systems have to be excluded from this criterion.	
ALL	Recyclability table - sprays	Just a small formal comment: It is suggested to indicate trigger sprayer in the exemption of the table 7.2. It is indicate a generic Pumps.	**Comment accepted.** The wording has been changed.
ALL	Excluded substances	BEUC and the EEB are in favour of including an additional requirement making sure that there are no Substances of Very High Concern (SVHC), as referred to in Article 57 of Regulation (EC) No 1907/2006, in the packaging material of the product. In addition, BEUC and the EEB strongly encourage the JRC to clearly exclude PVC in the packaging material. PVC is known to be very harmful to human health and the environment at all the life stages, from the emissions of vinyl chloride monomer (VCM) during PVC production to a low recyclability potential.	**Comment rejected.** The EU Ecolabel regulation stipulates that only the main environmental impacts should be addressed by the criteria and that the number of criteria/requirements should be kept to a minimum. Packaging is already on the fringe, as LCA studies have shown it to have significantly fewer impacts than other aspects linked to detergents. Concerning PVC, currently it cannot be used as part of labels/sleeves/closures with a majority of plastic bottles. As it is not widely used for detergent packaging, this exclusion via recycling is as good as a ban and is already a compromise (indeed, PVC can be easily separated from e.g. PP and HDPE, so its presence in the table is not necessarily warranted).
ALL		We propose to exclude PVC at all.	
ALL	Recyclability table	Are doypacks which are made mainly of PE and a thin film of PET considered easily recyclable? This	**Comment acknowledged.** If the PET film is considered a barrier coating, then it is allowed in PE

		form of packaging is necessary to provide consumers with refill options.	packaging.
ALL	PVC label/sleeve/closure	Exclusion of certain materials, e.g. PVC label, sleeve, or closure in combination with a bottle made from another material (PET, PP, or HDPE): strike out PP and HDPE. It is true that PVC and PET are both heavier than water and have similar densities and hence cannot be waste-separated by the simple float/sink method. However, PVC can easily be separated by said method from the materials PP and HDPE, which are lighter than water. Excluding PVC in combination with PP or HDPE is therefore not justified.	**Comment acknowledged.** In light of the reaction of many stakeholders to the inclusion of PVC in packaging (and them asking for it to be completely banned), the approach proposed is a compromise that will be kept for now.
ALL	Recyclability table	The variety of materials used in a product aims at meeting the user-expected performance as best as technically possible. Reducing the number of materials to favour the – surely noble – "design for recycling" aspect can actually result in a higher consumption of raw materials to begin with (i.e. a lower resource efficiency) and in the end the generation of more waste, which is contrary to the priority given to waste prevention. It can impede the use of more performing materials in more demanding parts, especially for industrial detergents. Unless you can prove this, we are critical of taking this point in, especially if it was not highlighted as a main environmental impact (see comment on p. 200!). Limiting the number of materials can make sense, but just if it does not result in an increase of material use and if it does not compromise the functional performance of the product (e.g., its durability), and the whole lifecycle environmental performance.	**Comment acknowledged.** As with everything else, there are trade-offs to the proposed "design for recycling" approach. The table proposed has been vetted (after some changes) by European associations that specialise in the recycling of plastics.
ALL	Recyclability table	We send you a proposal to modify the criterion (b) Design for recycling included in the six detergent	**Comment partially accepted.** As stated in the comment, it appears that the presence of EVOH in small

		product groups made from a license-holder with a large number of EU Ecolabeled products, especially, for industrial and institutional use. This company suggests removing, from the list "Materials and components excluded from packaging elements", the Barriers Coatings. They say that "the Draft prohibits all possible barrier material, but currently it is essential to use barriers coatings in flexible plastic packaging of detergents because they act as insulation atmospheric oxygen and improve the mechanical resistance of the packaging, being technically essential". They admit that recycling of composite films with PET or PE through extrusion processes is more difficult, but currently can be done through fusion processes. They also say that "the legislation draft states that EVOH cannot be used for the recycling process that go into extruded films, but nowadays EVOH barrier coatings are processed in certain proportions even into the PE-Recycling extrusion process". The inclusion of a new criterion banning the use of barrier coating exclude of the scope of the EU Ecolabel products with flexible plastic packaging that have multiple environmental benefits as low consumption of raw materials, low WUR, low carbon footprint, etc.	quantities (< 5%, preferably <1%) does not disrupt the recycling of PE or PP packaging. As the level of EVOH currently present in the recycling streams in Europe is <1%, the mention on EHOV will be removed from the table, but can potentially added again in future revisions if necessary (COTREP 2015).
		We propose to modify the criterion (b) Design for recycling included in the six detergent product groups. We understand that it is important to promote the recycling of the packaging but the current proposal of writing could go against some ecoinnovative designs of packaging. We propose to eliminate the following prohibitions of closures: 'Metallic foils or seals which remain fixed to the	**Comment partially rejected.** The requirement cited for I&I multi-component systems ('For multi-component systems, the applicant shall ensure that the product is used with an automatic and controlled dosing system') means that there is an automatic dispenser installed on the premises of the user, not that the packaging should include a way of automatically dispensing product. Nevertheless, a clarification has been added that closures can be made of metal, glass or EVA as long as they can be easily separated from the bottle. If they are easily separable, this should not impede recycleability.

		bottle or its closure after the product has been opened'. 'Closures made of metal, glass, EVA'. For professional and institutional detergents there are many kinds of packaging with good environmental performance that include metallic parts in closures, for instance, little metallic spirals, as part of the automatic dosing system. These new kinds of packaging made of flexible polyethylene have low WUR and low transport emissions. We believe that this restriction in closures goes against the new criterion proposed: 'For multi-component systems, the applicant shall ensure that the product is used with an automatic and controlled dosing system'. If it is not possible to eliminate this criterion, we propose to substitute it for the following text: 'If the closure includes metallic, glass or EVA parts which remain fixed to the closure, as part of the automatic dosing system, the closure should be easily separable to the bottle'. There are studies that support that flexible polyethylene systems, that include a little metallic component in the closure, as part of the dosage system, are surer for the user because there is not contact with the concentrated detergents, and have a lower environmental footprint. Example of results: Flexible polyethylene packaging 10 litres: 0.04 kg CO2 equivalent / litre Polyethylene bottle 10 litres: 0.14 kg CO2 equivalent / litre (Methodology: ISO 14067, PAS 2050, GH6, Cradel to Grave).	

LD	Threshold	We believe that it is not possible to reach the new WUR target of 1.2 in place of 1.5 for HDL by the time the revision/criteria is officially adopted - 1.4 is a more realistic target.	**Comment accepted.** Two different limits for powder and liquid products have been introduced as the WUR target of 1,2g/kg laundry was rather demanding for liquid products.
HDD	Threshold	Maybe this value is too restrictive. In the first draft we proposed 0,6g/l instead 1,2g/l as at present.	**Comment accepted.** In order to reflect that many different types of hand dishwashing detergents can be found on the market, the proposed value will be proposed to be increased.
HSC	Threshold	OK for these new values	**Comment accepted.**
HSC	Threshold	I don't understand why for the APC undiluted, the value is increased (x 12.5) while the value for the hand diswhashing products is decreased (/ 4,8). I think that 15g for an undiluted product is too high. A value of 1.5g or 2g should be suitable to limit the amount of packaging.	**Comment partially accepted.** The evolution of requirements for the product groups is different because they are inherently different. Packaging is one of the criteria that can be used to push towards the use of more undiluted products – that is currently not the case as the packaging criteria is restrictive that it's easier for applicants to pre-dilute the products (with the environmental impacts that entails) as undiluted products can pass all the criteria but the packaging one. Thus, a high threshold was proposed in this case. The threshold will be re-examined again to see if it is not too high.
ALL	Packaging sample	On the "design for recycling" A.I.S.E. thinks that the requirement to provide a sample of primary packaging can be challenging for some product groups.	**Comments accepted.** The assessment and verification has been updated to state that photos or technical drawings should be provided to the CB.
		For six detergents product groups, We don't agree to ask our applicants to provide a sample of primary packaging because it generate useless waste (usually, of plastic). We think a picture of this packaging or a technical document is sufficient. That can be also checked in the audit.	
		We think that it is not necessary. Pictures and audit should be OK. Much packaging to handle by the certification body.	
HSC	RTU products	It's important to leave the possibility to sell RTU products. In fact, we have currently 350 certified RTU products (and about 1000 certified products with this decision).	**Comment accepted.**

3.12 Sustainable sourcing of palm oil, palm kernel oil and their derivatives

3.12.1 Comments from stakeholders from the 1st and the 2nd AHWG meeting

Along the revision process it was agreed that the criterion on sustainable sourcing of palm oil should be applied horizontally across all detergent and cleaning product groups, thus the comments provided below refer to this criterion formulation and in particular to the assessment and verification issues in all products groups.

Table 80 Stakeholder comments regarding sustainable palm oil

Stakeholder feedback	**IPTS analysis and further research**
Stakeholder's feedback after the 1st AHWG meeting	
The *Palm oil shall be sourced from 100% certified sustainable palm oil from segregated sources*. More over the following additional requirements should apply on the source: - *No deforestation*. Forests of high value, for conservation or carbon storage purposes, are protected. All new palm oil developments should be on land where biodiversity and natural vegetation are already highly degraded. - *No new development on peat, regardless of depth* The requirement on kernel oil and derivatives should be at least on the level of certification with mass balance. The *certification system RSOP has been effective since 2004 and provides different levels of traceability*. However, the scheme has been *heavily criticized by NGOs*. Therefore it is not enough to require only RSPO certified segregated palm oil, but the requirement must be completed with the *sentences about the rain forest and peat*. As regards the kernel oil and derivatives there are additional parties involved which may complicate the situation and be the reason why the amounts of available certified kernel oil and derivatives is not high yet. We ask therefore JRC to investigate the situation carefully. Without demand there will be no increased access and the destruction of rain forests will go on. In Sweden have IKEA and the major grocery store chains decided to only use 100% RSPO certified palm oil in their private label products starting January 2015. You can find the palm oil policy of IKEA at http://www.ikea.com/ms/sv_SE/pdf/reports-downloads/how_we_work_with_palm_oil_IKEA.pdf	**Comments partially accepted.** Further research has been performed to follow up on the suggestions made by the stakeholders (see section 4.14 of the 2nd Technical Report (JRC 2015)).
BEUC and EEB *welcome the criteria on the sustainable sourcing of palm oil, palm kernel oil and their derivatives.* BEUC and EEB *support the requirement for the manufacturer to provide third-party certifications that the palm oil used originates from sustainably managed plantations*. In compliance with other national ecolabelling schemes like the Blue Angel, *certifications accepted shall include Roundtable on Sustainable Palm Oil (RSPO), but also ISCC+ (International Sustainability & Carbon Certification), Rainforest Alliance, Roundtable on Sustainable Biomaterials (RSB).*	

Therefore, we strongly call on the JRC to make further investigation on stricter types of tracing which would ensure a higher level of reliability. As the EU Ecolabel should only be awarded to the top 10% of the products, we believe that sticking to the stricter way of traceability would be the most appropriate. We appreciate the efforts made by the JRC to increase the use of substances from renewable sources to limit products' impact on the environment. We also recognize that the sustainable palm oil market is still underdeveloped and that the rarity of RSPO certified palm oil can trigger somewhat higher costs for manufacturers who would like to use it. The costs are however not immense. In 2013, the price of the book and claim was only 2-3 USD higher per ton compared with conventional palm oil, which meant a price about 0.3% higher than for conventional palm oil. For palm kernel oil, the equivalent price premium was over US $ 20 per ton, representing a 2.3% higher price. However, the book and claim system is considered to be very easy for companies to achieve. For example, BASF has already launched products with traceability. If small and medium-sized surfactant producers can deliver traceable products is difficult to predict. However, BEUC and EEB are concerned about the low level of traceability and claim of the Book and Claim system proposed by the JRC and supported by industry. Although manufacturers support sustainable palm oil and palm kernel oil plantations by buying their outputs, it remains very difficult to identify the authentic sustainable content of the palm oil when received by the manufacturers as this can be a mixture of oil coming from several mills. Even if the payment is received by the certified plantations, the impossibility to determine whether the received palm oil has been indeed sourced from sustainable plantations is a worrying matter of concern. Traceability of the ingredients is even more compromised when manufacturers buy from several raw material suppliers. The most relevant from a consumer's point of view is also making demands on physically certified palm oil (segregated or mass balance according to RSPO nomenclature). It is easier to communicate to a consumer that the palm oil used in that particular bottle he/ she purchased actually comes from a certified plantation.	
We recognize that Oil palm is an important driver of tropical deforestation and the expansion of oil palm imperils in both lowland rainforests and peat-swamp forests, which are, respectively, among the biologically richest and most carbon-dense ecosystems on earth is a serious problem. But we are not in favor of this criterion since we question that verifiability of the criterion by using the RSPO certification scheme. Below you can find 2 publications who support these doubts. See Pdf document.	
Concerne tous les référnetiels: Huile de palme avec engagement RSPO : Cette démarche engendre une hausse de coût supplémentaire importante pour les fabricants (*environ 10% de surcoût par matière première*). Nous ne souhaiterions pas aller vers ce critère pour les prochains textes	

Stakeholder's feedback after the 2nd AHWG meeting	
We welcome the requirement on the sustainable sourcing of palm oil, palm kernel oil and their derivatives. However, we strongly disagree with the use of the Book and Claim supply chain system which has a very low level of traceability and which does not provide sufficient guarantee to consumers that the palm oil bought is sustainable and that it is not destroying forests and potentially triggering conflicts in local communities. The Book and Claim system only guarantees that the manufacturer of the detergents pays a certain amount per tonne of palm oil to a producer or a plantation who is producing RSPO-certified palm oil, in order to get the "Green Palm certificates". The main reason why manufacturers are more likely to buy Book and Claim palm oil is that it is much cheaper to buy green certificates than to buy palm oil which is actually certified. This certification system based on a trading system cannot be used in the Ecolabel as it does not bring any added value with regards to the authenticity of the sustainable palm oil compared to conventional palm oil trading systems. As there are three different types of supply chains, the choice of the supply chain is of high importance in order to ensure the highest environmental benefits. We rather strongly recommend requiring the mass balance or segregated supply chain systems, which offer a higher reliability in the traceability of the palm oil from the mill to the manufacturer. In addition, mass balance palm oil is available from many suppliers such as Sasol, BASF, Henkel, Evonik. BASF has recently presented surfactants for cosmetic formulations or household cleaners with palm oil and palm kernel oil used to produce these ingredients that are certified by the RSPO and sourced either through the supply chain system 'Segregated' or 'Mass Balance'. As these surfactants are already on the market, it is of high importance that they are used in Ecolabel products. These methods offer better guarantees that the palm oil is coming from sustainable plantations.	**Comment partially accepted.** The welcome of the requirement on the sustainable sourcing of palm oil, palm kernel oil and their derivative by the stakeholders made us to explore the possibilities in-depth. For the best of our knowledge and as long as no fraud is committed and audits are properly carried out, the book & claim system does not only guarantee that the manufacturer of the detergents pays a certain amount per tone of palm oil but also that s/he supports the production of certified RSPO palm oil. According to our understanding, the book and claim system guarantees that there is a certain amount of certified RSPO produced and used, even if these products are not those in the hands of the end consumer. Then, this system, from our understanding, also promotes and supports a sustainable production of palm oil. Looking at the implementation of tracking systems in other EU Ecolabel criteria that include renewable commodities, it is found out that several similar aspects are considered. For example, in those products were the use of certified or non-certified wood, cork or bamboo based materials makes no difference from the performance point of view of the final products, decoupled traceability systems are also allowed at the level of mass balance systems. In the case of RSPO, information released by the certification scheme points out that the certification of derivatives and even palm kernel oil are not at the same level that palm oil certification. The derivatives are mainly covered by book and claim system and the exclusion of this system in the criteria may foster significant market distortions.
For now, RSPO is too young. Different levels exist. "Book & Claim" level doesn't guarantee sustainable palm oil, but only finance RSPO, that is not sufficient to guarantee an ecological impact. "Segregated" level guarantees sustainable palm oil but today, if all applicants would purchase segregated surfactants, the raw material suppliers couldn't provide it to all of applicants. Ecolabel doesn't impose vegetal origin for surfactants. We had the ecological choice of vegetal surfactants origin that increases their costs of 40%. The fact to pass for RSPO surfactants generates again an additional cost. It would be unfortunate, with these criteria, to promote, because of financial choice, synthetic surfactants.	**Comment rejected.** RSPO is a young scheme but compared to other palm oil certification schemes, RSPO is the more mature one. RSPO covers around 50 % of the world palm oil production. Regarding the comment of the traceability system and the availability of the products, information confirms that forcing the use of segregated certified palm oil and palm kernel oil derivatives for the manufacture of EU Ecolabel detergents could exceed the currently offer of this commodities on the market and lead to shortage of these products. Finally, regarding the additional costs, it is true that the higher level of demand of the traceability system, the higher the costs. Then, it is expected that allowing the four traceability systems in the EU Ecolabel criteria, additional costs will be brought to the minimum.

We support this new criterion but in the "*Assessment and verification*" part the certifications accepted shall include RSPO Identity preserved or segregated but not Mass balance. RSPO Mass balance is a mix of certified sustainable palm oil and non-certified palm oil that is not sufficient in our point of view.	**Comment rejected.** The market restrictions that could be created regarding the availability of certified derivatives by the IP, SG or MB systems makes consider the possibility of including the BC system for the time being. It is considered that the BC system guarantees the sustainable production of palm oil and palm kernel oil and supports further sustainable products. It does not guarantee that the product itself contains the certified palm oil derivatives. As the RSPO is growing in the last years, it seems reasonable to support the initiative in its early steps and increase the level of demand in the coming revisions of the EU Ecolabel.
For chemical derivatives of palm oil and palm kernel oil a book and claim system as Green Palm is not sufficient because Green palm doesn't ensure the use of a sustainable palm oil or derivates. A certification as RSPO (by Mass balance, segregated or identity preserved) could be request.	
To demonstrate sustainably of palm oil or its derivatives at least the RSPO mass-balance system should be used.	
We consulted our applicants and we agree that for now, RSPO is too young. This is not yet mature and this is the problem we have already with decision of rinse-off cosmetic products. We think this criterion should be included in the next revision when we shall have acquired the handsight we will gain from trying to live under it with rinse-off cosmetic products.	
We suggest eliminating this criterion given the doubts on the accountability of certification systems and the increasing of cost if they are adopted.	

3.12.2 Further research

Manufacturers of detergents, maintenance and cleaning products frequently use plant oils as raw materials in production. The use of natural palm kernel oil and coconut oil is particularly popular. The project group "Renewable Resources" within FORUM WASCHEN has compiled the most important information on the origin and use of these oils in fact sheets. The subsequence sections summarized the important facts communicated in those factsheets

3.13.3.1 Surfactants in the detergents and maintenance products: origin and use

According to the data reported by the Forum Waschen 2013 (Waschen 2013), the detergents and maintenance product industry in Germany uses both inorganic and organic ingredients in the manufacture of its products. Some organic ingredients can be obtained based on fossil or renewable raw materials.

In the year 2010, volumes of ingredients in detergents and maintenance products for private households totaled *ca.* 605 thousand tonnes dry only in Germany. Surfactants (surface-active substances) represent a large portion of that amount: their input volume in 2010 amounted to *ca.* 183 thousand tonnes and thus constitutes roughly one third of the total tonnage of all ingredients combined in these products.

Both fossil raw materials (e.g. mineral oil) and certain plant oils (mainly coconut oil from coconut palms and palm kernel oil from palms) are suitable for large-scale surfactant manufacture because of their high shares of fatty acids of medium carbon chain length (C_{12-14}). The plants oils currently produced in central Europe are technically unsuitable for surfactant manufacture for most uses.

Both petrochemical and renewable raw materials can be used for manufacturing the different surfactants. Depending on the varying shares of these raw materials, there are three possibilities.

1. Surfactants consisting exclusively of renewable raw materials. At present, they play a fairly minor part in detergent and maintenance products, due to cost and performance aspects.
2. Surfactants consisting exclusively of non-renewable, i.e. petrochemical or inorganic, raw materials (mineral oil or inorganic starting materials). In terms of volume, they are more important than those coming from renewable sources (group 1 above)
3. Surfactants of mixed origin which are based on both palm kernel or coconut oil and non-renewable raw materials. They account for almost 50% of surfactants used in detergents and maintenance products in Western Europe. The share of carbon of biogenic origin in these surfactants is estimated at 40%, resulting in a *share of ca. 20% of biogenic carbon in the total volume of surfactants used in the detergents products* for private consumers in Germany. This quantity is for the time being the only one that could be found in the literature. Several assumptions must be made when extrapolating this data, including that the share and the way the surfactants are produced is similar in other Member States and in the last decade.

An exact breakdown into shares of palm kernel oil and coconut oil in the surfactants for the detergent and cleaner product industry does not exist at the moment. Both oils are equivalent to each other in terms of technical aspects so their use is determined rather by prices and availability. The information related to the production and use in the detergent industry as well as to the social, economic and ecological aspects are summarized for both types of oils in the following sections.

The detergent industry expects that the demand of oleochemicals will increase in the coming years, although not the total EU surfactant market. To cover the increase in demand of oleochemical surfactants, an increase in the use of coconut oil, palm and palm kernel oil will

most likely be necessary because, according to the current state of the art, alcohols with short C-chains are required for the manufacture of surfactants. Substantial technological progress would need to be made in order to be able to also use other European vegetable oils for surfactant production. This is not impossible given the progress that has, for example, been made in producing directly ethoxylated fatty acid methyl esters, indicating the applicability of oleochemical raw materials with longer C-chains (C_{18}) such as rapeseed oil and soya.

Table 81 summarizes the drivers and obstacles concerning the further increase of surfactants based on renewable raw materials in the coming years, from a technical and ecological point of view.

Table 81. Drivers and obstacles concerning the further increase of oleochemical surfactants. (Patel 2004)

Drivers	**Obstacles**
Non-ionic surfactants represent the fastest growing subgroup, oleochemical raw materials are particularly suited to produce this type of surfactants	More stringent toxicity requirements call for shorter chain lengths than available in vegetable oils
CO_2 mitigation, use of renewable resources appropriately	Price fluctuations of vegetable oils, unclear stability of supply of vegetable oils (e.g. destruction of plantations by fires), relatively secure and stable situation for petrochemicals (to be reassessed after the last episodes in the Middle East Region)
Synergistic effects between certain renewable raw materials based surfactants and petrochemical surfactants support the growth of oleochemical surfactants, where as they tend to slow down or even reduce the use of petrochemical surfactants	Biodiversity considerations regarding vegetable oil plantations (monocultures), unclear net socioeconomic impacts
Progress in plant breeding makes it probable that vegetable oils with more suitable specifications for the surfactant industry can be grown in Europe in the medium term; if, on the other hand, new advantageous crop properties involve generic modifications, serious public resistance may arise	Further considerable potentials for the optimization of production processes, and hence the reduction of environmental impacts exist not only for renewable raw material based surfactants but also for petrochemical surfactants (this is not an obstacle, but it reduces the relative advantage of surfactants based on renewable sources)
In the last few years, oleochemical surfactants have contributed more to the development of compact detergents and the reduction of washing temperatures than petrochemical surfactants have	New plants for petrochemical surfactants (especially LAS) are generally very efficient and very large (eg one single world scale plant can satisfy one third of the demand of the entire north America); consequences of the large size are large market shares of single plants and strong pressure to recoup the investment.
From a purely technical point of view, a very large interchangeability of petrochemical and renewable raw material based surfactants exists	

a) Oils from oil palms: production and uses

Initially, oil palms were cultivated predominantly to obtain palm oil, which is mainly used as a food ingredient. Since more than one hundred years the use of energy (biodiesel) has also been gaining in importance. Oil palms are mainly cultivated in Indonesia and Malaysia. Even if

exact figures are difficult to get, both countries account for approx. 85% of the global palm oil production.

The fruits of oil palm provide two different types of oils: oil form fruit flesh is "palm oil" and oil from fruit kernels is "palm kernel oil". Depending on the origin, yields per hectare of cultivation area ranged from 8-9 tons of palm oil whereas smallholders had yields of only 4 tonnes per ha. Generally speaking, yields under smallholders conditions are up to 40% lower than yields in large-scale agricultural production.

In comparison with palm oil, *obtaining palm kernel oil requires more technical effort and a higher energy input*. With the growing cultivation of oil palms, volumes in the production of palm kernel oil today are 12 times as high as they were back in the 1960s. *As compared with palm oil, the use of palm kernel oil in the food sector is much lower. Palm kernel oil rather serves as a raw material in the chemical industry where it competes with coconut oil.*

In the year 2011, the global production volumes of palm kernel oil and coconut oil amounted to 5,7 and 3,7 Mtons, respectively. In the same year, the global production of palm oil totalled 50,6 Mtons.

b) Oils from oil palms: sustainability aspects in the use of palm kernel oil

For surfactants used in detergent products, there are no significant differences between surfactants based on fossil or renewable raw materials – neither regarding performance nor in respect of price. The use of fossil raw materials is increasingly becoming an ecological, economic and political challenge, also against the backdrop of the ongoing climate debate, the risk of accidents in maritime transport, the finiteness of the these resources and the political situation in producer countries. Therefore, the use of renewable raw materials can provide an alternative to fossil resources; it can contribute to climate protection too.

The sustainability assessment of palm kernel oil, as a renewable material in surfactant manufacture, depends on the ecological, economic and social conditions in which the palm kernel oil is produced. For altogether positive effects of the use of palm kernel on the environment and the socio-economic situation in the countries of origin, certain sustainability criteria need to be taken into consideration in the cultivation and harvesting of oleiferous fruits: nature conservation, climate protection, environmental protection, protection of indigenous groups of population, working conditions on plantations, lad right issues, income of the workforce to ensure sufficiently high standards of living, etc

The goal of sustainability cannot be reached where tropical primary forests are cut down or peatlands are drained for oil palm plantations or other types of plantations. The conversion of primary forest into plantations involves the release of CO_2, being this release intensified where natural forest was cleared by slash-and-burn or where peatlands were drained and carbon stored in layers of peat partly several meters high is released as CO_2 into the atmosphere. The use of degraded areas can be used for the cultivation of oil palms. Further increases in yields can be achieved through higher productivity. These measures combined could contribute to covering future rises in demand (palm oil for foods and biodiesel), without resorting to lands that should be protected.

Another observed issue is the changeover of existing farmland (e.g. rubber plantations) into palm oil plantations. Here generally the competition for agricultural and forestry areas need to be taken into account. Such changes in the land use are difficult to measure, and there is no consensus as yet on how to include this in certification systems. The crucial aspect is the changeover of areas previously used for food production.

Finally in the ecological-agricultural perspective and also from the point view of the impacted rural population, the cultivation of oil palms in monocultures can cause problems, because there is a potential for destroying the economic, social and cultural basis for living, mainly for indigenous population groups. All in all, with the very high productivity of oil palms the palm oil industry makes important contributions not only to food production globally but also to the gross national product and the export proceeds of cultivation countries.

c) Oils from oil palms: supply chain for surfactants based on palm kernel oil

In the manufacture of surfactants based on palm kernel oil, the supply chain starts with plantation companies or oil palm farmers. They harvest oil palm fruit from which palm oil is obtained, usually directly at the plantation. Palm kernels are more durable, for this reason, they are frequently stored prior to processing or they are transported to oil mills and processed into oil. But only part of the kernels is used, because their processing is highly intensive and therefore, not always rewarding in the traditional palm oil production. Surfactants manufacturers buy palm kernel oil and other raw materials on international markets.

At present, buying RSPO certificates is the only way for the detergent product industry to support a sustainable palm oil production. For this purpose, volume equivalents of RSPO–certified palm (kernel) oil are produced which subsequently go into the general production stream of palm (kernel) oil (RSPO supply chain system: book and claim as detailed in below).

d) Oils from coconut: production and uses

The most relevant countries for the production of coconut trees in Asia are Indonesian, Filipinas, India, Sri-Lanka and Papua-Newguinea. Among them, Indonesia and Filipinas are the biggest worldwide producers and exporters of coconut oil, which is the most added-value product. Both together held approx. 68% of the market in 2009, reaching more than 1.85 Mtons exports. Europe imported approx. 30% of the total production of both countries.

In 1930 the world production of coconut oil reached 1,9 Mtons and was increased up to 3,2 Mtons in 2009. At the same time and as commented before, the production of palm oil steady increased, leading to the expansion of the palm oil economy. *As a consequence, the "laurics" market experienced a shift from the dominance of coconut oil production towards the palm oil production.*

e) Oils from coconut: sustainability aspects in the use of coconut oil

The aspects of the sustainable production and use of the coconut oil in the detergent product industry were analysed by (Waschen 2013) for the year 2010. This section summarized the most important findings.

In the case of Filipinas, coconut trees have been cultivated and harvested since the Spanish colonial period. Today, the coconut tree plantations account for ca 26% of the agricultural land of the country and yield to a copra production of approx. 1ton per ha and 0,62ton of coconut oil per ha. If the "good agriculture practice" were implemented an increase up to 1,6 ton coconut oil per ha would be expected. Economically speaking, the coconut oil business involved approx. 1,6 smallholders with an average plantation of 1.5ha. Additionally, the harvest and copra production involves 1,9 million families. Altogether, it is considered that directly or indirectly more than 20 million people are involved in the sector. This figure accounts for one fifth or on fourth of the Filipina population.

The surfactants manufacturers buy palm kernel oil and coconut oil as well as other raw materials in the international spot market. Therefore, as commented before for the palm kernel oil industry, the sustainability assessment of coconut oil, as a renewable material in surfactant manufacture, depends on the ecological, economic and social conditions in which the coconut oil is produced.

Nowadays the sustainability of the coconut industry strongly depends on the working conditions and income of the labour force (*socio-economic aspects*). Income of the workforce has to increase to ensure sufficiently high standards of living as nowadays approx. 70-80% of the coconut workforce live under the poverty line. This situation is a legacy of the post-feudal system (few land-owner and non-owners labours) and the monopoly structure of the copra and coconut oil production industry.

Regarding the ecological aspects, they are not so crucial as for example the carbon balance of all the coconut products is positive, assuming the no conversions of primary forests into plantations have been taken place since the 70s.

f) Oils from coconuts: supply chain for surfactants based on coconut oils

On average one tonne of coconut oil yields two tonnes of surfactants, although the exact yield depends on the type of surfactant to be produced. *But unfortunately, and opposite to the palm kernel oil commodity for the time being there is no a sustainability certification system in place* and therefore there are no data to track back the origin of this raw material.

In a nutshell, *renewable resources are not per se sustainable or non-sustainable. A differentiated examination of cultivation and production conditions is needed.*

3.13.3.2 Supply chain sustainability certification schemes

There are a number of voluntary and mandatory standards that apply to palm oil and some of them to palm kernel oil. Certification schemes vary in their aims, scope and methodologies and each scheme has strengths and weaknesses. However, by addressing these strengths and weaknesses, schemes can evolve to push for improved practices and make sustainable production of agricultural commodities the norm.
There are several types of standards to support responsible palm oil production as indicated in Table 82.

Table 82 Schemes to prove the sustainability of the palm oil and related commodities

	Name	comments
Certification standard	Roundtable on Sustainable Palm Oil (RSPO)	See comments in detail below
	International sustainability and carbon certification (ISCC)	The ISCC is a system for certifying the biomass and bioenergy industries oriented towards the reduction of GHG emissions, sustainable land use, protection of the natural biosphere and social sustainability. ISCC applies across the supply chain and so can verify traceability from a plantation right through to the consumer, can be applied to meet legal requirements in the bioenergy market, as well as to demonstrate the sustainability and traceability of feedstock in the food, feed and chemical industries. The scheme is younger that RSPO and serves for the recognition of compliance with the EU Renewable Energy Directive. Form the point of view of using this standard for showing compliance with the EU Ecolabel criteria, it seems that the ISCC is mainly developed to verify the compliance of biofuels with the EU Renewable energy directive.
	Rainforest alliance/ Sustainable agriculture network (RA/NA)	The RA established in 1987 aims to change land-use and business practices to reduce their impacts on both biodiversity and local people. The SAN is a large coalition of non-profit conservation organisation formed in 1997 working to mitigate the environmental and social risks associated with agriculture. These two schemes together operate a global system for certifying the sustainability of farms in a variety of sectors. The schemes are not specific for palm oil and their derivatives. This scheme does not suit for demonstrating compliance with the EU Ecolabel requirements since the stakeholders involved are not representative of all the interested parties.
	Roundtable on sustainable biomaterials (RSB)	RSB is global certification scheme to encourage the sustainable production of biofuels and other biomaterials. It was established in 2007 as the Roundtable of sustainable biofuels and in 2013 as RSB. It has two sets of principles and criteria for certification, one which applies to any type of feedstock on a global scale and one which is specifically consolidated to comply with the EU Renewable Energy Directive (EU-RED). These standards encompass social, environmental and economic aspects of sustainability such as GHG emissions, rural development and financial viability. This scheme is not mature enough to be widely used in the EU Ecolabel. The compliance of the EU Ecolabel requirements throughout this scheme might create market restrictions.

Voluntary initiatives	Palm oil Innovation Group (POIG)	POIG is an initiative between environmental and civil society organisations and industry companies that aims to build upon the RSPO principles and criteria and existing company commitments, especially on issues of deforestation, carbon stocks, biodiversity, GHG emissions, pesticide use and social relations. The POIG charter holds that certain P&C should set clearer performance standards for certified growers with recommendations such as introduce a high carbon stock (HCS) approach to land development, maintain and restore peatlands and prohibit their clearance, publicly report GHG emissions from all sources, minimize the use of chemical fertilizers and toxic pesticides, prohibit cultivation of GMOs, manage water sources and their use responsible and transparently, protect and conserve wildlife through high conservation value (HCV) In 2014 POIG released its first "charter indicators" list, which stipulates the specific conditions to be met regarding issues such as peat development, HCV and HCS management and the FPIC process, among others. This scheme is not mature enough to be widely used in the EU Ecolabel. The compliance of the EU Ecolabel requirements throughout this scheme might create market restrictions.
	Sustainable Palm Oil Manifesto (SPOM)	SPOM commits its signatories to supply chain sustainability through three main objectives: no deforestation in HCS forest areas and the protection of peatlands, to create traceable and transparent supply chains and to provide positive economic and social impacts for people and communities. These standards aim to build upon those set by the RSPO of which all signatories are members. Five of the largest oil palm growers in the industry were the first to sign the manifesto. The group is funding a study on HCS, the study aims to establish thresholds and suitable assessment methods to identify HCS forests, which will be excluded from future oil palm plantation development, thereby ensuring that environmental concerns are addressed whilst not stifling economic development.
Mandatory national standard *	Indonesian Sustainable Palm Oil system (ISPO)	ISPO is national government certification system designed by the Indonesian ministery of agriculture and introduced in 2011. It aims to improve the sustainability and competitiveness of the Indonesian palm oil industry whilst contributing to the Indonesian government's commitments to reducing GHG emissions and drawing attention to environmental issues. ISPO is mandatory for all oil palm growers operating in Indonesia, from large plantation companies to smallholders, although requirements for each vary. The system supports the implementation of many of Indonesian's existing laws and regulations and the assessment of growers relies heavily on the Indonesian environmental feasibility assessment. It is part of the wider United Nations Development Programme. The SPO initiative aims to increase smallholders capacity and improve livelihoods, better protect the environment and reduce GHG emissions, through the following strategic components: -strengthen the capacity of smallholders focusing on good agriculture practices and environment protection - strengthen ISPO standards to protect forests, enhance biodiversity conservation, and mitigate and monitor GHG emissions - facilitate social responsibility, empowering related communities and mediation systems - reinforce the ISPO framework and clarity ISPO standards for wider acceptance and - establish national and provincial platforms to ensure transparency in the sector and to promote sustainable palm oil

	Malaysian sustainable palm oil (MSPO)	The MSPO standard is a national certification standard created by the Malaysian government and developed with input from various stakeholders in the palm oil industry. It was first launched in Nov 2013 and officially came into implementation in 2015 The MSPO standard follows seven principles surrounding the themes of "management', ''social equity'', ''environmental protection'' and ''economic progress''. The MSPO aligns the management of palm oil production with many existing national laws and regulations, although unlike ISPO, MSPO is not mandatory. In 2015 the Malaysian and the Indonesian governments announced a plan to merge their two national sustainability standards to form the Council of palm oil producing countries (CPOPC0 with the aim of improving production and co-ordinating control of the palm oil market.
CEN initiative on biosurfactants	Recently an initiative has been started by the European Committee for Normalization CEN/TC 276 on Surfactants on bio-surfactants. The Commission gave to CEN an official mandate to develop a European Norm that will encompass defining bio-surfactants, setting minimum biomass content thresholds, recommending analytical methods for verification. Beside these elements, development of environmental but also societal criteria and a certification scheme (similar to RSPO) is considered (Séné 2015) The project team of the CEN proposed so far two possible options of setting the biomass threshold for surfactants. In the first option surfactants would be divided into bio-surfactants, bio-based surfactants category A and B and other surfactants depending on the content of biomass, as indicated below: Bio-surfactants: > 95 % Bio-based surfactants: 50 – 95 % (category A) Bio-based surfactants: 25 – 49 % (category B) 'Other' Surfactants: < 25% In the second option, instead of bio-based surfactants category B, the group containing between 25 and 49% of biomass, would be called bio-derived surfactants. Other categories are the same as in the first option. At the time of writing, it has not yet been decided which of these options will be chosen and whether the thresholds cited above will be kept. Other considerations of this initiative refer to including in the planned standard environmental and social criteria. Environmental criteria would cover for instance biodegradability. The possibility of linking with the work of the Product Environmental Footprint and setting LCA-based environmental criteria is also taken into account. Regarding both social and environmental criteria, considerations are made whether these should be mandatory or voluntary ones. The planned standard shall be available by the end of 2016. Besides the work on bio-surfactants, also developments for other specific bio-based products are simultaneously conducted. They encompass bio-lubricants, bio-plastics and bio-solvents. Also ISO Technical Committee initiates working in the area of biosurfactants. Thus in the future, more harmonisation in this area is expected. IPTS follows closely the development of the above-mentioned works, it seems however, that it will be premature to take into account its findings and the bio-based surfactants in the EU Ecolabel, as requested by some stakeholders.	

* which is applicable to all oil palm growers in Indonesia, have also been developed to address industry sustainability at a national level. In general mandatory standards does not fit the philosophy of excellence required by the EU Ecolabel scheme, as it should be fulfilled by all the parties. Schemes in this group are for example

4.13.3.3 *Roundtable on Sustainable Palm Oil (RSPO)*

RSPO is a multi-stakeholder non-profit group funded in 2004 with the objective of *promoting the growth and use of sustainable oil palm products through credible global standards and engagement of stakeholders*. RSPO is based on the regular dialogue of seven sectors of the palm oil industry, including investors, growers, retailers and NGOs. It uses a consensus voting system to develop standards and criteria for its members and it is now the dominant certification scheme for palm oil in foodstuffs and household products. This point is key from the EU Ecolabel point view to ensure that no market distortion is created.

The RSPO is based on eight principles and criteria as follows:

1. Commitment to transparency
2. Compliance with applicable laws and regulations
3. Commitment to long-term economic and financial viability
4. Use of appropriate best practices by growers and millers
5. Environmental responsibility and conservation of natural resources and biodiversity
6. Responsible consideration of employees, and of individuals and communities affected by growers and mills
7. Responsible development of new plantings
8. Commitment to continuous improvement in key areas of activity

To claim compliance with the principles and criteria and achieve RSPO certification, growers must be assessed by a third-party RSPO accredited certification body every 5 years, with an annual audit for continued compliance. This is fundamental to achieve certified sustainable palm oil (CSPO).

Due to the complexity of the palm oil supply chain and the variable volumes produced and traded, multiple chains of custody and trading mechanisms are necessary to meet the needs of producers and buyers to support the uptake of CSPO. There are four supply chain models for RSPO certified sustainable palm oil (Carrefour n.d.)

- *Identify preserved (IP)*: CSPO is kept segregated from all other sources (certified and non-certified) and a batch of certified palm oil can be traced from plantation to factory to retailer
- *Segregated* system (SG): ensures that certified palm oil is kept apart throughout the supply chain. Only certified oil from certified plantations is mixed. The buyer can be sure that its oil comes from RSPO certified plantations. The traceability of certified palm oil is ensured throughout the supply chain until the last refinery through the RSPO supply chain database thanks to identification numbers put on invoices and certificates. Form the final refinery until the end product, the traceability is made by invoices and supply chain certification of companies.
  Today, segregated palm oil is present on the European market but all palm oil ingredients are not available according to segregated system yet. It is also the responsibility of suppliers to push its implementation by prospecting suppliers who could supply certified and traced palm oil. In 2011, the additional cost of certified and traced palm oil (segregated) is about 25-50 euros per metric tone.
  An RSPO trademark has been officially launched. It allows manufacturers to put an RSPO logo on their products containing segregated/mass balance certified palm oil. This logo can be put on the packaging of products which at least 95% of palm oil ingredients are RSPO certified and segregated. There is no need to ask validation of packaging to RSPO, the proper use of the trademark is annually controlled during RSPO supply chain audits.

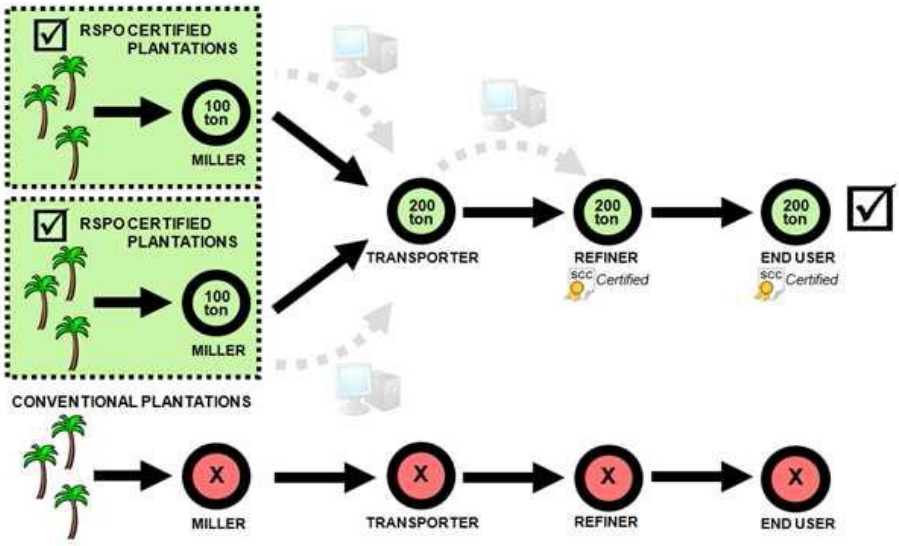


Figure 6. Scheme of the segregated system

- <u>*Mass balance system*</u> (MB) allows buying a volume of palm oil corresponding to a quantity of sustainable palm oil really produced. The RSPO certified palm oil enters the classic supply chain where it is mixed with non-certified palm oil entered in the supply chain. The buyer does not buy only physical certified palm oil but supports the implementation of traceability.

The traceability of certified palm oil is ensured throughout the supply chain until the last refinery through the RSPO supply chain databased thanks to identification numbers put on invoices and certificates. Form the final refinery until the end product, the traceability is made by invoices and supply chain certification of companies.

In 2011, the additional cost of certified mass balance palm oil was about 15-25 euros per metric tonne. This system is covered by the RSPO logo.

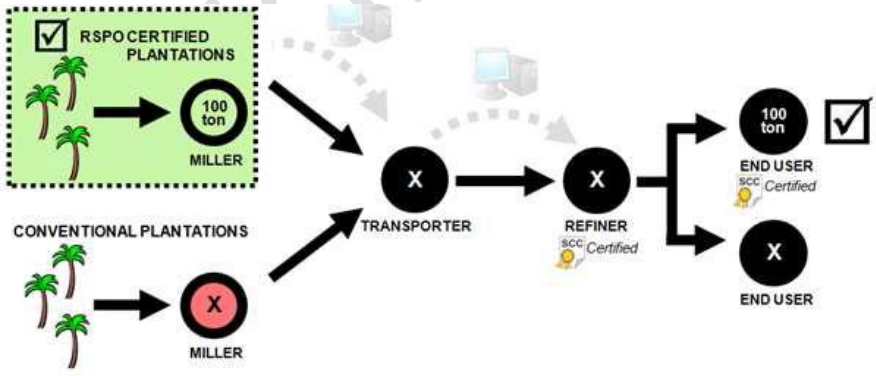


Figure 7. Scheme of the mass balance system

- <u>*Book and claim*</u> (B&C) (Greenpalm): this bypasses the need for physical traceability of certified palm oil through the supply chain. The book and claim system enables support of certified palm oil production through the purchase of Greenpalm certificates. The RSPO certified palm oil is not kept apart from conventional palm oil but enters the classic supply chain. The producer chooses to sell certificates corresponding to a volume of certified palm oil he has produced and sent in a conventional supply chain, without added value. Those certificates can be bought by palm oil users in accordance with their needs.

There are 2 types of certificates: CPO certificate for "crude palm oil" and CPKO certificate for "crude palm kernel oil". A CPO certificate corresponds to 1 metric ton of CPO or derivatives, likewise the CPKO certificate corresponds to 1 metric ton of CPKO. The system is explained in more detail below

Once the certificates are bought, there are the possibilities to sell them again on the trading platform. Nevertheless, the certificates have to be redeemed to allow claims on them and cannot be sold redeemed certificates anymore.

The book and chain system, documents of purchases and redeemed certificates, but also evidence of claims and corresponding tonnages are audited. These documents may be requested during audits to check that the number of certificates matches with the tonnages of CSPO declared. The number of book and claim users audited per year is around 10% at the expense of the audited company.

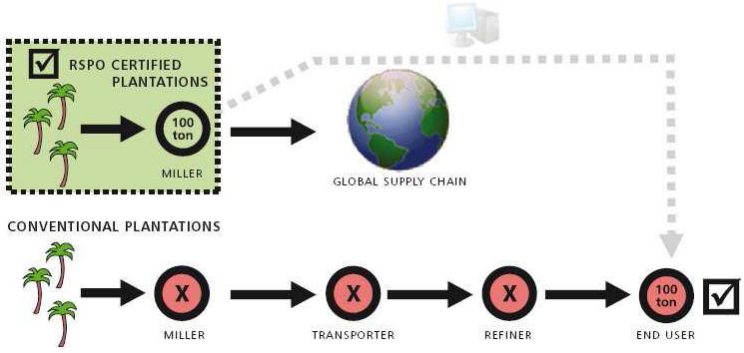
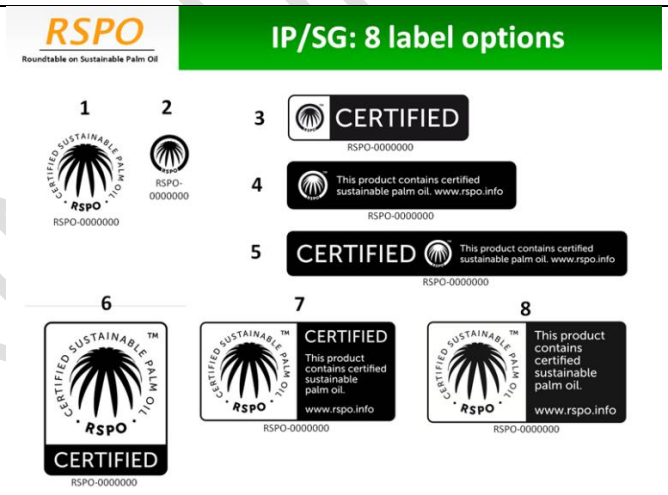
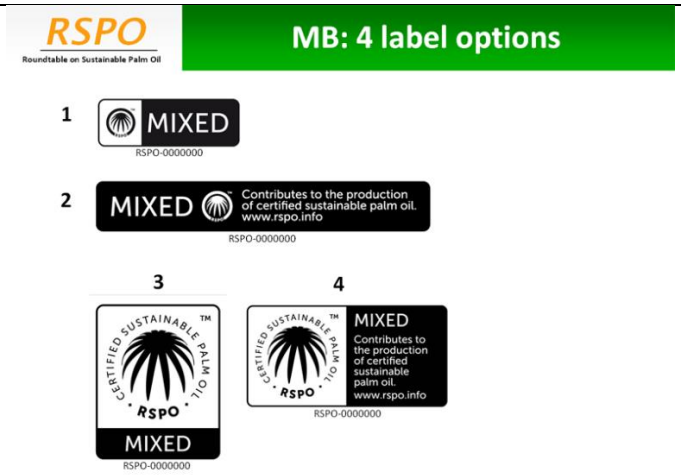


Figure 8. Scheme for the book and claim system

Regarding the *communication of the system* followed along the supply chain and the claims to be done; RSPO has very specific rules (RSPO, RSPO Rules on market communication and claims n.d.). RSPO sets rules for on-product communication, use of the RSPO trademark and the product-related communication statements to be on the package. RSPO also allows for mixing palm oil that is traced by different systems as summarized in table

Table 83 Summary of the accounting systems in the RSPO

	Percentage RSPO certified	On product communication rules	Example
1	IP + SG + MB + + B&C > 95%	On product communication allowed	If IP + SG + MB > 95%, then the product communication according to B&C are allowed (see number 5) If IP + SG + MB < 95%, then the product communication according to the MB are allowed (see number 2)
2	IP + SG + MB > > 95%	On product communication allowed	Messaging <u>*ALLOWED*</u>: a) *the palm products in the product were sourced according to rules set by the RSPO* b) *palm products from RSPO-certified production units were mixed with conventional palm products in the supply chain* c) *the volume of palm products in this end product reflects an equivalent volume of palm products that came from RSPO-certified production units. RSPO certified production units have been found by independent auditors to operate within the strict guidelines for social and environmental responsibility of the RSPO.* Messaging <u>NOT ALLOWED</u>: *a) anything that can lead consumers to believe that RSPO-certified palm products is (certified to be) part of the product*
		Use of RSPO trademark allowed	
3	Only combination of IP + SG	Use of RSPO trademark allowed + "certified" allowed	 Messaging <u>*ALLOWED*</u>: a) *the palm products in this product have been certified to come from RSPO-certified production units* *b) RSPO certified production units have been found by independent auditors to operate within the strict guidelines for social and environmental responsibility of the RSPO* *c) by choosing this product, you support the RSPO certified palm oil industry and contribute to preservation of our natural resources* *d) RSPO-certified sustainable palm products were kept apart from other palm products throughout the supply chain* *e) from the refineries, RSPO-certified palm products can be traced back to RSPO-certified production units* *f) the entire supply chain is monitored by independent, RSPO-approved auditors* *g) references to (or images of) particular RSPO-certified production units, of the relationship to those units can be shown by company records.*

4	Only combination of IP + SG + MB	Use of RSPO trademark allowed + "mixed" allowed	 See number 2
5	B&C part of the mix	Greenpalm communication rules	Messaging ALLOWED: a) greenpalm is a certificate trading programme that is designed to limit environmental and social side effects of the production of palm oil. The programme is endorsed by the RSPO b) *for every tonne of palm products used in the manufacturing of the product, a voluntary premium was paid to palm oil production units that have gained RSPO certification. Certified production units have found by independent auditors to operate within the strict guidelines for social and environmental responsibility of the RSPO. The palm oil itself is sold, processed and purchased in the usual way.* Messaging NOT ALLOWED: a) *anything that can lead consumers to believe that RSPO-certified palm products is (certified to be) part of the product*
6	In non- consumer facing communication company may state % of different supply chain system used.		

4.13.3.4 State of the art of the certification systems for the detergent production industry (Waschen 2013)

At the light of the information in the previous section, the only certification system that ensures the sustainable production of palm kernel oil is RSPO with book and claim system. This conclusion is drawn based on the following points:

- *palm kernel oil is the most relevant commodity for the detergent product industry*. An alternative commodity would be coconut oil, but the vegetable oil market is shifting from coconut oil production towards palm oil and palm kernel oil production
- *coconut oil production and market is not covered by any sustainability certification scheme*.
- *RSPO is the most mature and widely spread scheme* for sustainable certification of palm oil and palm kernel oil
- *the only accounting system that covers palm kernel oil and its derivatives is book and claim*. BASF launched an initiative to apply the segregated system for palm kernel oil from 2015 on, but no records are available yet. "... *The first surfactants based on RSPO-certified, sustainable palm kernel oil have been announced for 2015 by BASF. Certified palm kernel oil from various certified plantations is to be used, and throughout the supply chain the certified palm kernel oil will be physically kept apart from non-certified palm kernel oil (SG)...."*

Additionally, *in 2013 it was assessed that buying RSPO certificates (that means B&C system) is the only way for the detergent production industry to support a sustainable palm oil protection.*

The RSPO has been moving strongly towards a sustainable palm oil economy, but progress is not yet satisfactory from the viewpoint of some stakeholders. It is criticised that forests continue to be clear for setting up oil palm plantations and that smallholders are driven off their land.

a) Greenpalm

Due to the need of relying in the Greenpalm for supporting the sustainable palm kernel oil production and the production of palm derivatives, this section gives in a nutshell the needed information to understand how this system works.

Greenpalm owns a platform where certificates can be interchanged between sustainable growers and buyers that are members of the system (available at www.greenpalm.org).

The *platform* supports both a spot-market and an off-market where producers who are certified sustainable (certified growers) are eligible for 1 green palm certificate for each metric tonne of sustainable oil produced. The producer trades these certificates and manufacturers purchases and redeems these certificates through the GreenPalm platform or website to support sustainable palm oil. This process enables the producer to receive a premium for their sustainable crop, which in turn helps to create a market for sustainable palm oil. How this system works is shown in Figure 9

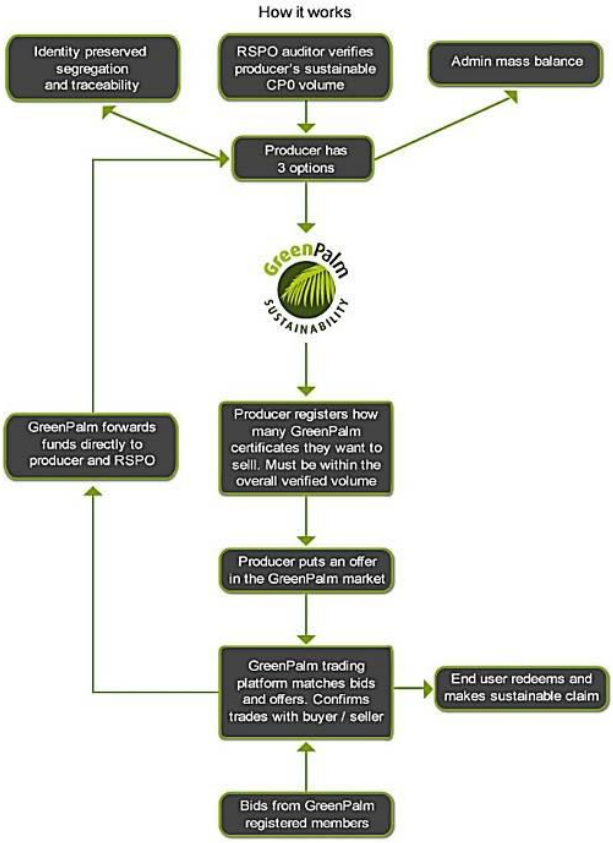


Figure 9. How does the Greenpalm certificate work?

GreenPalm was seen as a supply chain option to create market demand for RSPO certified sustainable palm oil and is endorsed by the RSPO. It was put in place to allow manufacturers time to make the transition to 100% certified sustainable palm oil (CSPO), this was meant to have been until buyers could access a steady and traceable supply of CSPO (Certified Sustainable Palm Oil). However, even if the GreenPalm was meant to be used as a temporary supply chain by brands, this system is being used as long term supply as it is the cheapest option of RSPO endorsed supply chain, which also gives the company the right to claim sustainable palm oil without actually purchasing CSPO (certified sustainable palm oil). *While the buyers are not willing to pay a premium for CSPO then the Palm Oil companies have to sell their already produced oil as if it were unsustainable. So the producers are losing money hand over fist for doing the right thing. This is why GreenPalm should not undersell traceable CSPO.*

One of the handicaps of this system is that companies using GreenPalm supply chain option are refusing to shift their *supply chain to CSPO until 2015*, *this is the time bound commitment date they have given to the RSPO,* it's not that the CSPO supply chain is not available, because it is, but why should a brand pay more for CSPO when they can make a RSPO sustainability claim and save money at the same time. Brands are stretching the changeover out to as far as they can.

b) Greenpalm market for palm kernel oil and its derivatives (spot-market)

The market works as follows

1. Once an oil palm grower receives certification against the RSPO principles & criteria, it has four supply chain options through which to sell its certified tonnage. If the grower choses to register their tonnage for sale via GreenPalm, he should be a member of Greenpalm

2. The sustainable grower introduces an "offer to sale". This is an offer to sell the number of Greenpalm certificates specified in the "offer to sale" at a price per Greenpalm certificate equal to or above the price specified in the offer to sell, excluding fees. The "offer to sale" must be made in US dollars and may be made in 0,01$ increments. For example, an "offer to sale" at 10$ is an offer to sell at 10$ or more, which authorises GreenPalm brokerage to accept Bids of 10$ or more, starting with the highest price.
3. Greenpalm certificates relate to a particular calendar year of sustainable palm product production. A producer may make an offer to sell in respect of a GreenPalm certificate from the date on which a producer registers that GreenPalm Certificate with GreenPalm brokerage on the website until three months after the end of the calendar year to which the Greenpalm certificates relates.
4. On the other hand, the buyers may offer to buy 25 or more of the same type of Greenpalm certificate by making a bid to Greenpalm brokerage. The bids include details such as the quantity wished to buy and the calendar year to which those Greenpalm certificates must relate. A bid is an offer to purchase the number of Greenpalm certificates specified in the bid at a price below or equal to the price specified in the bid.
5. On receipt of an offer to sell with a bid that both matches in price, Greenpalm brokerage will confirm receipt by electronic mail to the seller and will show on the seller private's area on the website the receipt of that offer to sell, including the date and time of receipt an unique reference number. The Greenpalm Brokerage will also confirm receipt by electronic mail to the buyer and will show on the buyers private area on the website the receipt of that bid, including the date and time of receipt and a unique reference number.
6. If the offer to sell price is above all bids, the offer to sell price will be listed anonymously on the list of offer to sell on the website.
7. If the bid is below the price of all offers to sell, the bid will be listed anonymously on the list of bids on the website. Each bid shall remain capable of acceptance by or on behalf of a seller until the earlier of
    a. Acceptance of the bid by or on behalf of a seller
    b. The buyer withdraws the bid in accordance with the conditions or
    c. Greenpalm brokerage suspends the provision of brokerage service respect of that buyer or generally.
8. The transactions, matched on a first in first out system when they are made at the same prices, are notified to the buyer and seller and transfer of the ownership of those Greenpalm certificates are recorded on the website.

The volume of certificates for palm kernel oil for the previous year is shown on the website. The volumes are total monthly 'on market' certificate trades and the prices are average monthly 'on market' certificate trades. Data is displayed via **trading year**, each trading year runs for 15 months, from January to March the following year. The additional 3 months allows buyers to balance up based on actual physical palm, palm kernel usage.

c) Greenpalm off-market for palm kernel oil and its derivatives

1. The off-market works as follows:
2. Manufacturers contact RSPO certified growers and make a bid for your certificate requirement. On the bid email, manufacturers should include the **trading year**, **certificate type**, **quantity** and **certificate price** in $ USD (excluding RSPO donation and GreenPalm brokerage).
3. Once both parties have agreed a deal, they communicate the deal to Greenpalm by email with the confirmed details. Both buyer and seller must confirm the deal via email. The confirmed details - **trading year**, **certificate type**, **quantity**, **certificate price** in $ USD (exclude RSPO donation and brokerage), **account names**.

4. GreenPalm will complete the deal, this will appear on the market's recent trade list with no price showing = $ OMD. Trade confirmation emails and invoices are then sent.

The RSPO maintains a central database where producer volumes are registered to prevent double selling. When a producer registers volume on the GreenPalm system their balance is reduced in the central database. The producers physical movements of oil will also reduce the balance in the database.

d) Greenpalm redeemed certificates and claims

Manufacturers who have bought the Greenpalm certificates must redeem certificates in order to validate their RSPO supporting claims. Each palm oil or palm kernel oil certificate redeemed is equal to one tonne of physical oil they use during the year.

Only growers/producers certified by RSPO auditors as complying with the RSPO Principles and Criteria are allowed to register and sell (offer) certificates on the GreenPalm market. As of 2011 and under instruction from the RSPO, all GreenPalm members who have redeemed 500+ certificates within a trading year will automatically be audited. The GreenPalm audit does not require a physical site visit.

The manufacturers who have bought and redeemed Greenpalm certificates are entitled to claim their support of the production of sustainable palm oil. They can make those claims wherever they see fit, on marketing materials, in news releases and on product packaging using the Greenpalm sustainability logo. As Greenpalm certificates relate to palm oil usage in a given calendar year, business that wish to continue making claims in support of sustainable palm oil must purchase new Greenpalm certificates every year.

Retailers making GreenPalm claims are automatically audited.

4.13.3.5 Credibility of certification schemes

Feedback following the 1st AHWG meeting for the EU Ecolabels on detergents and the implementation of the EU Ecolabel on Rinse-off cosmetics has highlighted that there are concerns regarding the true sustainability of RSPO and other schemes' certified substances. For example, Green Peace, in its 2013 report, Certifying Destruction (Peace 2013) heavily criticized the RSPO mechanisms as being insufficient to provide the fundamental protections necessary for forest and peatlands which may be converted to plantations. In the report, it estimated that RSPO-related activities resulted in disproportionate destruction of the forests and peatlands; most of this was attributed to poor traceability, as well as practices on the ground.

As pointed out by a stakeholder, IKEA have put in place a palm oil policy (IKEA 2014) that builds on RSPO adding various stipulations, as alternative schemes appear less credible in terms of scale:

a) That only segregated palm oil is used, that is certified palm oil that is physically separated from non-certified palm oil all the way from the certified mill to the end user.
b) No deforestation; forests of high value, for conservation or carbon storage purposes, will be protected. All new palm oil developments should be on land where biodiversity and natural vegetation are already highly degraded.
c) No new development on peat, regardless of depth.

It should be noted, however, that points (b) and (c) are still in development (e.g. a roadmap for (b) needs to be developed by the supplier with IKEA and put in place by the end of 2017). It is therefore not possible, as of this moment, to use the scheme.

The appropriateness and effectiveness of the Book and Claim approach was also questioned by stakeholders as effectively the surfactants contained in the final products are in no way guaranteed to come from sustainable plantations as the system does not follow the physical

movement of the raw materials. It is, nevertheless, the least costly of the systems proposed by RSPO.

RSPO includes rules and procedures that serve to certify the specifics of commonly used oleochemicals and their derivatives produced from natural oils and fats with focus on palm and palm kernel oil. This fact is an advantage of this scheme above other schemes. The rules are summarized in (RSPO 2013) but they are limited to the following primary and secondary oleochemicals and derivatives to minimize complexity: fatty acids, glycerine, soap, methyl esters, fatty alcohols, fatty amines and fatty esters. These rules have been proposed by the industry as the most immediate process to encourage rapid acceptance of RSPO and CSPO until physical supply chains are more common. The clear and ultimate intent however is to deliver RSPO and CSPO in a physical supply chain manner as soon the supply chains have achieved the necessary structure.

This point links with the traceability system required in the EU Ecolabel criteria, as the options for derivatives for the home and personal care (HPC) market as limited. There are no doubts that the IP and SG systems have a higher level of ambition than the MB and the B&C systems. Both IP and SG systems are more demanding than B&C and MB, but this fact does not mean that all systems require that a certain amount of certified palm oil have to be produced and that a certain amount of certificates have to be put on the market for this amount of certified palm oil. The difference between the schemes relies on the product that reaches the consumer and the tracking and traceability along the supply chain. Following the IP and the SG systems the customer buys these certificates and their respective sustainability claims whereas following the MB or the B&C system the physical palm oil the producer uses in the product has not necessarily been produced in a sustainable way that leads to a certificate.

However, or at least in theory and assuming no frauds and appropriate audit checks, either system should be equally valid. In practice, an IP or SG systems are more difficult to fudge than the B&C or MB ones, because with the former the sustainability certificate physically travels with the palm oil (the tracking is easier to perform and the number of users audited per year are probably higher)

This situation has been faced in other EU Ecolabel schemes where the certification of natural resources is required such as forestry-based materials certification or certification of renewable commodities. In most of those EU Ecolabel schemes, criteria were developed allowing a decoupling of the physical certified material and the certified materials itself. This is for example the case of criteria dealing with wood, cork and bamboo certification in product groups such as wooden floor covering or furniture. The criteria are based on a mass balance system as it is considered that this verification procedure forces manufacturers to push the market towards more sustainable products and at the same time does not impose too much costs on the final product.

3.13 Volatile organic compounds (VOCs) and solvents

3.13.1 Comments from stakeholders from the 1st and 2nd AHWG meeting

Table 84 Stakeholder comments regarding VOCs

Stakeholder feedback	IPTS analysis and further research
Stakeholder feedback after the 1st AHWG	
The proposed limits for VOCs are useless, these % are not usable in any formulation.	**Comment Accepted** VOC restrictions have been revised finding out that in comparison to other schemes most likely there was a mistake in the definition.
This proposal is equivalent to ban fragrances from this product group. We find this approach discriminating for Southern Europe countries, where perfume is a mandatory quality factor for consumers. We also think it would be more honest, transparent and logic to ban directly the perfumes instead of giving unfeasible limits.	**Comment Partially accepted** Fragrances are one of the most important functions of VOCs in cleaning products. Data show that fragrances amount for 12% of the VOC used in cleaning products as an average (Table 77) and that the current limits would allow the use of fragrances to certain extent. It should be kept in mind that fragrance is not contributing to the main purpose of cleaning products and restrictions can be applied without getting a lower performance of the product.
The limits are not strict for APC and sanitary cleaners. I question if we aren't being again less strict on RTU products compared to undiluted products?	**Comment Accepted** Revised limits are proposed in line with other international schemes. They are applicable for RTU products. Undiluted products should be diluted in accordance with the recommended dosage before measuring Restrictions of VOC components through CDV criteria can be uncertain.
VOC limits: This alternative CDV and CDV limits can be used for calculating the VOC limits.	
Stakeholder feedback after the 2nd AHWG meeting	
Please add the thresholds in the text to the table, as it is hardly understandable as it is written now.	**Comment Accepted** Wording of the criteria has been changed accordingly
This is not so clear, it is better to put all the values in a table and it is better to use the terms undiluted and ready to use instead of as used an as sold	

We would like to express that the currently discussed limits especially for the product group "**glass cleaners**", offered *predominantly as a ready-to-use products ("as used"), would be accompanied by a significant reduction of the achievable level of cleaning performance*. Our European wide and well established performance glass cleaner ("Frosch/Froggy/Rainett Alcohol Glass cleaner" and its corresponding I&I-Version) contains VOCs <10% according to the current definition. *According to the new definition, it would be, however, 12.5% and an Ecolabel would therefore no longer be possible.*	See below
Alternatively, at least the VOC limits should be increased accordingly. We would appreciate if you support our input in redefining the VOC-criteria.	
However changing the definition in EU Ecolabel from 150°C to 250°C would bring a lot more organic ingredients under the requirement, and thus would require re-adjustment of the maximum level allowed for the different cleaners. *So it may be much simpler to just maintain the current definition*.	See below

<table>
<tr>
<td>I kindly ask other CBs and industry to check the formulations of (awarded) window cleaners and degreasers as the proposed VOC-limits are problematic at least for these product groups.
<u>Compared to the former criterion the proposed limits are much stricter, also because a much broader definition of VOC will be used now</u> Some of the often used substances are with this definition considered as VOCs and weren't up to now - for example most glycol ethers. Solvents like alcohols and glycol ethers are often the "working horses" of window cleaners and degreasers with the aim to remove greasy dirt. Other ingredients for this purpose might be surfactants and alkali. <u>Therefore VOCs should not be limited too much - problematic substances are excluded by the H-phrase list anyway</u>.
For consumers nearly all of the window cleaners are used as they are sold, therefore the limit of 3% would be valid. This would seldom be fulfilled by a window cleaner on the market I assume.
If we stay at a percentage of 10% ("as used") with the new VOC-definition for window cleaners we aggravate this criterion enough (or even more than enough???) – in xx 1 out of 7 glass-cleaners won't be awarded anymore.
If we stay at a percentage of 6% ("as used") with the new VOC-definition for degreasers, again 1 out of 4 products won't be awarded anymore. The same limit could be set for all of the industrial and institutional cleaners.
In addition to that we propose to set no limit for window cleaners "as sold", 25% for degreaser might be sufficient. This would promote the formulation of concentrated products; in case of window cleaners they are only offered for professionals, at least in xx. In this table you find the proposed limits:

<table>
<tr><th rowspan="2">Cleaning Product</th><th colspan="2">Limits by weight of VOC</th></tr>
<tr><th>As used</th><th>As sold</th></tr>
<tr><td>Window Cleaners</td><td><10%</td><td>-</td></tr>
<tr><td>Degreasers</td><td><6%</td><td><25%</td></tr>
<tr><td>(?) II cleaners other than Window cleaners</td><td><6%</td><td><25%</td></tr>
<tr><td>Others</td><td><1%</td><td><12%</td></tr>
</table>
</td>
<td>Further research on possible thresholds
Thanks to the collaboration of several competent bodies, the newly proposed limits for each type of HSCs were evaluated. The assessment was based on the data reported by the current licence-holders. This means, that the evaluation was done on the basis of likely good environmental performing products on the market.
Based on this collaboration data from approximately 20 APC products, 11 sanitary products, 9 toilet cleaners, 6 kitchen cleaner and 14 window cleaners were assessed.
In the light of the results, all the current licence-holders checked would comply with the requirements of this criterion if VOC is defined as "any organic compound having at 293,15 K a vapour pressure of 0,01 kPa or more, or having a corresponding volatility under the particular conditions of use" according to Directive 1999/13/EU and the following thresholds are set up:

<table>
<tr><th>Cleaner</th><th>RTU</th><th>Undiluted</th></tr>
<tr><td></td><td colspan="2">% (weight by weight)</td></tr>
<tr><td>All purpose cleaners</td><td>≤ 6</td><td>≤ 12</td></tr>
<tr><td>Sanitary cleaners</td><td>≤ 8</td><td>≤ 25</td></tr>
<tr><td>Kitchen cleaners</td><td>≤ 8</td><td>≤ 25</td></tr>
<tr><td>Window cleaners</td><td>≤ 12</td><td>--</td></tr>
<tr><td>Others</td><td>≤ 6</td><td>≤ 12</td></tr>
</table>
</td>
</tr>
<tr>
<td>It is difficult to know if the limits are strict enough because the definition changed but the values seems really high, in my opinion e.g <u>RTU window cleaners, bathroom cleaners, degreasers and probably also RTU APCs contain less than 25% active matter</u> and also for the concentrated APC the values seems really high.</td>
<td>See above</td>
</tr>
<tr>
<td>Definition and harmonization. Identification of VOCs</td>
<td></td>
</tr>
<tr>
<td>We <u>have also to be clear about the definitions</u> – as the whole product group is called "hard surface cleaning products", does the term in the table "<u>Industrial and institutional hard surface cleaner" mean all of the professional products?</u></td>
<td>The criterion for HSC includes both consumer and industrial and institutional product.</td>
</tr>
</table>

By the way: *with this definition the ones from directive 2004/42/EC and directive 1999/13/EU are merged which isn't very common*; the laboratory test only mentions the vapour pressure, therefore it would be better to refer only to directive 1999/13/EU, but more suitable in my eyes would be 2004/42/EC. See: VOC definition in Europe - European Solvents Industry Group	**Comment Accepted** The idea of bringing the VOC definition in line with other VOC definitions included in the current EU legislation as well as the VOC definitions included in other voluntary schemes of third countries such as AU, NZ or Canada (as reported in the TR1.0) is desirable. However, there is no a unique VOC definition, neither at EU level nor at international level. As summarized in the section 4.13 of the 2nd Technical Report (JRC 2015) there are two main VOC definitions at EU level (Directive 2004/42/EC and Directive 1999/13/EU). These two definitions are not exactly the same since one sets up as a threshold the boiling point of the substance at a specific pressure while the other sets up the vapour pressure at a specific temperature. Regarding the classification of most of the compounds used in the formulation of the cleaners, it seems that the VOC definition included in the Directive 1999/13/EU: "*any organic compound having at 293,15 K a vapour pressure of 0,01 kPa or more, or having a corresponding volatility under the particular conditions of use*" corresponds approximately to a boiling point of 200C while the VOC definition included in the Directive 2004/42/EC specifically defines a VOC as those substances that have a boiling point equal to or above 250C at a pressure of 101,3 kPa. The definition included in the Directive 199/13/EU seems to be fitter for this purpose. Regarding the comments on how to find out the information related to the boiling points or vapour pressures of the substances at a specific pressure or temperature respectively, it seems that for the time being there are no database of the detergent ingredients and their physical properties available, therefore the change in the VOC definition and respective thresholds don't seem to cause any remarkable drawback.

By the way: *with this definition the ones from directive 2004/42/EC and directive 1999/13/EU are merged which isn't very common*; the laboratory test only mentions the vapour pressure, therefore it would be better to refer only to directive 1999/13/EU, but more suitable in my eyes would be 2004/42/EC. See: VOC definition in Europe - European Solvents Industry Group	**Comment Accepted** The idea of bringing the VOC definition in line with other VOC definitions included in the current EU legislation as well as the VOC definitions included in other voluntary schemes of third countries such as AU, NZ or Canada (as reported in the TR1.0) is desirable. However, there is no a unique VOC definition, neither at EU level nor at international level. As summarized in the section 4.13 of the 2nd Technical Report (JRC 2015) there are two main VOC definitions at EU level (Directive 2004/42/EC and Directive 1999/13/EU). These two definitions are not exactly the same since one sets up as a threshold the boiling point of the substance at a specific pressure while the other sets up the vapour pressure at a specific temperature. Regarding the classification of most of the compounds used in the formulation of the cleaners, it seems that the VOC definition included in the Directive 1999/13/EU: "*any organic compound having at 293,15 K a vapour pressure of 0,01 kPa or more, or having a corresponding volatility under the particular conditions of use*" corresponds approximately to a boiling point of 200C while the VOC definition included in the Directive 2004/42/EC specifically defines a VOC as those substances that have a boiling point equal to or above 250C at a pressure of 101,3 kPa. The definition included in the Directive 199/13/EU seems to be fitter for this purpose. Regarding the comments on how to find out the information related to the boiling points or vapour pressures of the substances at a specific pressure or temperature respectively, it seems that for the time being there are no database of the detergent ingredients and their physical properties available, therefore the change in the VOC definition and respective thresholds don't seem to cause any remarkable drawback.
I know that the *limit on 250C in the VOC-directive and the paint-directive is set as a compromise in order to limit the amount of some specific substances used as solvent in paint,* and to make sure that the industry could use some others. I really believe this will be much more difficult to do in detergents, without having a complete overview of the boiling points for substances on the DID-list. The numbers of different ingredients used are so much higher. *Therefore I think the consequences for the industry and licence holders might be significant*. But again I do not really know, because I do not know the boiling points of the ingredients.	**Comment accepted** The criterion proposal remains as it is right now. however, the thresholds that should come along with the changes in the VOC definition were also higher that the current ones. We got several data to assess the new needed threshold.s, but this information was not enough to be considered a representative sample of the high number of products that are awarded with the EU Ecolabel. This is the main reason to propose no changes in this criterion
Bringing the *VOC definition down to other definitions in the EU would in principle be a good thing for reasons of harmonisation* e.g. the Paints Directive talks about a boiling point (bp) of below 250°C	**Comment rejected** See above for not considering this opinion

I find it *very difficult to know which substances are VOC's*. We have often discussions with our license-holders about this. A lot of the *SDS doesn't contain the information concerning the boiling point or vapour pressure* because data are not available or because they don't have to provide the information. Or are available with another temperature e.g. 25°C.	See above
You surely now that in the valid criteria for all purpose cleaners the content of VOC is limited. *These days a boiling point of 150°C is used to identify VOCs. Now an official VOC-definition shall be introduced. I gave a comment to this in December* (maybe Norway as well?). I use an excel-sheet for the calculation of CDV which Peter Buttner published at the German homepage for the EU Ecolabel. There we have got a column where we sum up the VOCs. Therefore it would be good to have the substances in DID Nr. 2531 separately. But not only because of this, see above.	**Comment accepted**
Almost all the substances on the DID-list are mixtures of several substances. If you look at the list, you will sees that most of the entries are similar to DID 2017 which I picked as an example: C9-11, ≥2 - ≤10 EO Carboxymethylated, sodium salt or acid The chain length here varies between 9 and 11, and the number of ethoxy-groups varies between 2 and 10. Almost all the substances are like this, especially the surfactants, but also other substances. It is obvious that the boiling point may vary a lot between the homologues within one DID-list-number. Furthermore, *we do not have any compilation of boiling points for the detergent ingredients*, as far as I know. Therefore I do not know the consequences of increasing the boiling point limit from 150 to 250 degrees Celsius.	See below and above
VOCs quality and hazards	
Finally I would like to ask you why you want to do this. *Do you know of particular substances which are particular bad, which you want to exclude with the VOC-definition*? And is the VOC that important compared to the spray-products where a cloud of all the ingredients rests in the air when we are using the all-purpose cleaner, and we are breathing them all in. Perhaps it is a better idea to ban all spays products? Or all fragrances? And I would advise you to contact the detergent-industry before changing the VOC-definition.	**Comment rejected** The reason why the VOC restriction is important for this product group is because they can be breathed during their use. VOCs are considered to act on the nerve system. The consequences of this effect depend on the exposure time and the amount. As commented by the stakeholders, the current criterion does not make any

Also for *cleaners which are used only a short time and in limited amounts the more lenient definition of VOC's may be much more appropriate as compared to paints that emit the VOC's during a longer time* (not only at time of application). The *VOC exclusion does not aim to exclude specific 'bad' ingredients, which are already done though the restriction on the use of classified based on their hazard statements*. Some VOC (we are talking about the vapours, hence NOT the droplets in the air) when they are breathed in, can act on the nerve system, like the volatile alcohol (you get drunk), and when this happens repeatedly over long times can give damage (e.g. glue sniffers) *But for this you need exposure to a high amount and during a long time, hence the legislation for VOC for paints that are used by lots of professionals that are daily exposed to the vapours.*	differentiation between the environmental properties of the VOCs that can be used. This difference is made in other schemes such as: "*Ökorein: kriterien umweltschonender wash- und reinigungsmittel*" available at http://www.umweltberatung.at/chemikalien-und-reiniger However, the EU Ecolabel restricts the compounds to be used based on their H-statement classification. Comparing both schemes, it can be seen that most of the compounds classified as Group 3 by *Ökorein* are classified with an H-statement that is restricted by criterion 5."Excluded and restricted substances"" proosed in this EU Ecolabel revision. There are several glycol ether compounds falling in Group 3. The compounds that fall under group 1 and 2 of the *Ökorein* scheme are also allowed to be used in the EU Ecolabel up to the limits set by this criterion.
Unfortunately, either in the old or the new VOC-definition there is no qualitative evaluation of different VOCs. *We consider the natural-alcohol (from fermentation) we use to almost 10% as more efficient but also more environmentally friendly as (far) lower concentrations of problematic glycol ethers, which are very often used in other glass cleaners.* We would therefore appreciate very much that the new definition of VOC limits for Ecolabel glass cleaner also includes a qualitative evaluation of VOCs in order not to penalize or exclude a well-established Ecolabel-reference product with a proven high eco-efficiency.	No difference is made in the EU Ecolabel scheme between all those compounds. However, regarding the restrictions of EU Ecolabel, the level of ambition of this scheme seems to be equal to or higher than those in the *Ökorein* scheme. For example, the VOC compounds of group 1 can be used up to 30% by weight. The highest VOC content limit is 25% for undiluted products and 12% for RTU products.

3.14 Phosphorus content

3.14.1 Comments from stakeholders

The first criteria proposal for the revision of EU Ecolabel criteria for Detergents included a restriction on phosphorus by means of three simultaneous restrictions:

- ban for phosphates
- ban for phosphonates that are not aerobically biodegradable and
- limit on total amount of phosphorus. This approach followed the Detergent Regulation but it had a higher level of ambition.

During the discussions held on the 1st AHWG meeting, stakeholders remarked that it is very unlikely that industrial and institutional detergent discharges would reach the river without being previously treated in a Waste Water Treatment Plant (WWTP). They claimed that due to the unlikelihood of reaching surface waters and to their high performance properties phosphates for industrial and institutional detergents should be allowed. Additionally, another stakeholder pointed out that phosphonates are used in very limited amounts and that the requirement for biodegradability is not appropriate as they have been shown to biodegrade in river water but they often fail laboratory biodegradability tests. Finally, stakeholders commented the additional costs for the SMEs if these requirements were set up. Comments submitted through BATIS on this topic are shown in Table 85

The comments received during and after the second AHWG meeting were focused on three different aspects:

- welcome the deletion of the ban for phosphonates that are not aerobically biodegradable,
- request for allowing using phosphates in IILDs,
- new assessment of the limit for P-content in LD.

Table 85 Stakeholder comments regarding P-restrictions

PGs	Stakeholder's feedback	IPTS analysis and further research
Stakeholder's feedback after the 1st AHWG meeting		
Gen	We welcome the *ban of phosphates and phosphonates that are not biodegradable* as well as the limit of the total phosphorous amount in the six product groups.	**Comment Rejected** - phosphonates are non-biodegradable according to the lab tests. The proposed restriction will avoid the use of phosphonates in the detergents having good cleaning performance, what can be under certain conditions, a big disadvantage. - banning completely P-compounds in consumer products is too stringent and would create marked restrictions in some Member States.
	All P-components should be banned in consumer products	
	We are opposed to phosphonates exclusion	**Comment Accepted** See above
LD	Concerning the phosphorus compounds, *there already are on the market alternatives to phosphates and phosphonates as GLDA*, etc.	**Comment Accepted** The following findings are reported in section 8.16.2 - LDs are phosphate-free in EU due to the Detergent Reg. and there is already a large availability of phosphate-free and/or P-free products on the market - phosphonates contribute to less extend to P-content in wastewater than other P-compounds and are not biodegradable, not bio-accumulating and have good detergent properties. The good compliance with UWWT ensures that most of the P-content of the wastewater is removed
	Phosphonates from detergents are a very minor contribution to total phosphorus in sewage. Less than 1% of total sewage phosphorus taking into account other sources such as food wastes, water treatment, background and surface runoff, food industries etc. In sewage works, *80 – 97% of phosphonates are removed from water to the sewage sludge* (HERA report).	
DD	Dishwasher detergents will have to be phosphate free from January 2017. Since the criteria will be published before, the EU Ecolabel should not be less strict than coming mandatory regulation.	**Comment Accepted** The following findings are reported in section 8.16.2 - availability on the market of phosphate-free DD and market trends toward the production of phosphate-free and P-free DD have been identified
IILD IIDD	PAPA proposes to allow the use of phosphates in the IILD and IIDD product group. The rationale for this is provided in detail in the IIDD section, in the form of an attachment - please refer to this. This will also be provided separately to A. Boyano to ensure that it reaches JRC.	**Comment Partially accepted** The following findings are reported in section 8.16.2 - Professional detergents are a little share of the detergent market. Phosphorus contribution from this sector is significantly lower than from consumer products - phosphates and phosphonates are key ingredients to achieve good cleaning performance under hard performance conditions - good compliance of the UWWT: most of the industrial and institutional detergent wastewater will be treated in a secondary or tertiary treatment WWTP before discharging - poor availability of phosphate-free IIDD on the market what can create market restrictions if phosphates are banned in this type of products. - good availability of phosphate-free IILD on the market. Existing EU Ecolabel criteria for IILD already request phosphate-free detergents.
	Sewage treatment and its relevance to the unimportance of IIDD (IILD) to eutrophication are explained in the attachment	
APC	This statement is NOT TRUE in its current form. I am referring to the rationale provided under IIDD - Excluded Substances. This and other instances of this text need to be revised as they are biased and do not take into account the existence of sewage treatment.	**Comment Accepted** Further research on the connectivity to WWTPs demonstrates that a large European population is connected to WWTPs and that most of the urban population is connected with a WWTP with secondary or tertiary treatment that is able to remove large amount of phosphorus.

HDD	Are Phosphorus compounds allowed?	**Comment Not relevant**
Stakeholder's feedback after the 2nd AHWG meeting		
All	European Phosphonates Association, EPA, welcome and support the proposal to remove the ban on phosphonates that are non-biodegradable from all EU Ecolabel product groups related to detergents.	**Comment Accepted**
	Phosphonates have both types of bonds: C—P and C—O—P It is worth clarifying that phosphonates are needed at low levels for stain removal, bleach stabilization, prevention of scale build up, etc. and that the levels demanded by Detergents Regulation are already low.	**Comment Acknowledged** Changes to be introduced in the respective section
All	Are you sure that wastewater from Institutional is often treated in specific treatment plant?	**Comment Acknowledged** The level of coverage of the WWT across EU has been recently published (See information given in the 2nd Technical Report (JRC 2015). Exact figures are reported in the coming sections, but generally speaking most of the large population nuclei (about 2000 inhabitants) are provided with a WWT plant. The kind of treatment of the WWT depends on several factors, as explained below.
IIDD	A.I.S.E. welcomes this possibility (allow the use of phosphates in IIDD)	**Comment Acknowledged**
IIDD	BEUC and the EEB do not agree with the JRC proposal and we think that phosphates should be banned in all product groups, including IIDD, and phosphorus content should be further restricted*	**Comment Rejected or under consideration** The use of phosphates in industrial and institutional products is under consideration because of the opposite effects that they can cause. As commented previously, the inclusion of phosphates as ingredients can be beneficial in professional applications where the performance is a key aspect due to the specific tough conditions they are working in. In the case of IIDD, there seems to be no alternatives that perform at so as high level of performance. Other aspects supported this decision as for example the broad implementation of WWT or the associated savings in energy and water. Therefore, the use of phosphates in IIDD was initially allowed although limited by the total P-content threshold. After the 2nd AHWG meeting, a proposal for allowing the use of phosphates as ingredients in the IIDD was considered. The findings and research carried out on this topic can be found below.
ILDD	Lifting of the ban on phosphates for the IILD category**	
IIDD	There is no limit for phosphorus or its compounds in the document. We would like to propose a criterion where the concentration of total phosphorus in the used water is 08 g P/l water.	**Comment Rejected** There are several limits expressed as gP/l water depending on both the function of the product included into the IIDD product group and the water hardness. These limits are stricter than the proposed value 8 or 0,8gP/l water (as both values seem to be too high).
all	Page 1, 2, 3, 10, 24, 39, 53, 84, 164, 222, 224, 229 Should not be 'phosphorus compounds' but 'phosphorus' The title of the criterion should be 'phosphorus content' and not 'phosphorus compounds'. A.I.S.E. thinks that the criterion should refer to "total phosphorus calculated as elemental P" and not "total phosphorus compounds". This amendment should be reflected in the whole document (e.g. Table 82) and in all product groups.	**Comment Accepted** Changes will be performed in line with the proposals: the title will be changed to phosphorus content and the criterion will refer to total phosphorus calculated as elemental P

<table>
<tr><td rowspan="2">LD</td><td>The new threshold limits on phosphorous (at 0.03g P/kg) makes the use of the phoshonate ingredient forbidden. The phosphonates are a key ingredient in laundry liquid formulation in order to remove some of the key stains present in the qualification performance test. At the present time, we do not think it is possible to develop a formulation that would meet the EU Ecolabel performance criteria with the new threshold limit of 0.03g P/kg by the time the revision is adopted.</td><td rowspan="2">Comment Partially accepted
The limit of P-content for LD was proposed as 0.03gP/kg of laundry. This limit has been revised after the 2nd AHWG meeting and the following aspects should be highlighted.
- the proposed limits is inspired on the Nordic labelling threshold. This scheme suggests a limit of 0,03gP/kg wash for both DD and LD.
- the Nordic labelling limit refers to soft water
On the other hand, the Detergent Regulation obliges a limit of 0.5gP/washing. This means approximately 0,11gP/kg of laundry for hard water. The comparison between both limits is therefore challenging due to the different definition of the basis and the water hardness.
The study conducted in 2010 focused on the possible savings due to the water hardness and performed tests at different water hardness, detergent dosages and temperatures. The study confirmed that with soft water 50% of the detergent dosage used in hard water provides the same washing efficiency at much lower temperature (16C instead of 40C). These values have been used to estimate the P-content limits of both schemes for different water hardness.
<table><tr><td></td><td colspan="3">gP-content/kg of laundry</td></tr><tr><td>Water hardness</td><td>Soft</td><td>Medium</td><td>Hard</td></tr><tr><td>Detergent regulation</td><td>Approx. 0,06</td><td>Approx. 0,08</td><td>0,11 (incl in Det Reg)</td></tr><tr><td>Nordic labelling</td><td>0,03 (as incl in NL)</td><td>0,04</td><td>0,06</td></tr><tr><td></td><td></td><td></td><td></td></tr></table>As observed, the corresponding values of the Nordic labelling are approximately half of the values imposed by the Detergent Regulation.
After this comparison, it is considered that the level of ambition of this scheme could be extended across Europe, requiring a maximum P-content that corresponds to half of the Detergent Regulation threshold.
Modifications in the criteria wording has been performed to provide the value as gP/kg of dried laundry for medium water hardness (0,04 gP/kg of laundry)</td></tr>
<tr><td>A.I.S.E. believes that the limit is very low and should be aligned with Detergents Regulation, i.e. 0,5 g of P/wash in order not to create a big burn for the manufacturer and also knowing that the phosphorus compounds that will be used do not contribute to eutrophication. A.I.S.E. supports the views submitted by EPA, the European Phosphonates Association, on the levels of phosphorus.</td></tr>
<tr><td>DD</td><td>A.I.S.E. believes this limit should be aligned with Detergents Regulation, i.e. 0,3 g of P/wash. A.I.S.E. supports the views submitted by EPA, the European Phosphonates Association, on the levels of phosphorus.</td><td>Comment Rejected
If the EU Ecolabel limit regarding the P-content in DD equals the limit in the Detergent Regulation, this value will not be able to differentiate the products on the market. The Detergent Regulation is mandatory across EU and all the products placed on the market from 2017 on should comply with this limit.</td></tr>
<tr><td>HSC</td><td>A.I.S.E. believes that there should be no difference between the domestic and I&I products as they are used in the same way.
The limit should be 0,5% weight by weight for both types of products.</td><td>Comment Partially accepted
The information provided about the no difference in the intended use of the products regarding the sectors leads to the harmonization of the P-content of the products. Current P-content limits are different between the types of products but not regarding the sectors where they are intended to be used. This is due to the fact that there are products which formulation is exactly the same for both domestic and professional use.</td></tr>
<tr><td>HSC</td><td>What is the rationale behind this and where does the limit value come from?
What kind of products needs phosphorus as ingredient?</td><td>Comment Acknowledged
Although the presence of P in the HSC is not relevant, there are products that are or can be formulated with ingredients containing this element. This rational is reflected in the type of limits proposed. Limits are quite low for two reasons: firstly, they aim at being strict whereas, they do not aim at imposing an unreal burden.</td></tr>
</table>

* BEUC and the EEB do not agree with the JRC proposal and we think that phosphates should be banned in all product groups, including IIDD, and phosphorus content should be further restricted, based on the following reasons:

1. First, phosphates have strong environmental impact. They highly contribute to eutrophication and detergents are among the biggest sources discharging phosphates after agriculture. Product design changes can be easier achieved for detergents than changes in agricultural production processes which also contribute to eutrophication. Phosphates in detergents can easily be replaced

with other builders, strong amino acid derived organic chelating agents such as zeolites, MGDA, GDLA, NTA, EDTA [1], DTPA, available on the European market. Therefore we do not see technical barriers to ban phosphates completely.
2. Second, other schemes such as Nordic Swan or Good Environmental Choice (GEC) have not only banned phosphates but have also set very strict criteria on phosphorus content: GEC does not accept professional dishwashing detergents with Phosphorous and Nordic Swan accepts 0,08g P/litre water for dishwasher detergents.[2] For hard water the JRC accepts more than 6 times of phosphorus content than the Nordic Swan criteria for professional dishwashing detergents. Besides, there are today many products on the Swedish market which are phosphorus-free: Diskteknik, a Swedish manufacturer produces many phosphorus-free detergents carrying the Nordic Swan.
3. Strict limits do not prevent the products from being successful on the market as both Nordic Swan and GEC products benefit from a large uptake in the market. The Nordic Swan has among 208 products labelled on the market. At least 3 products labelled with GEC can be counted in Denmark where water is hard.
4. Products from other ecolabelling schemes demonstrate that our request is feasible. As this is already done in other schemes, the EU Ecolabel should remain a frontrunner in the market. Therefore, thresholds for phosphorus content should have been lowered in the revised criteria.
5. The criteria should reflect the evolutions of the market and the Ecolabel should remain a frontrunner in the market. This is the reason why thresholds for phosphorus content should have been lowered in the revised criteria.
In addition, we strongly encourage the JRC to re-include the criterion on the ban of phosphonates that are non-biodegradable in machine dishwashing detergents, where they are not necessary.
[1] NTA: nitrilotriacetic acid, CAS N° 139-13-9 ; EDTA: ethylenediaminetetraacetic Acid, CAS N° 60-00-4; MGDA: methyl glycine di-acetic acid, CAS n° 29578-05-0; DTPA: diethylene triamine pentaacetic acid, CAS N° 67-43-6
[2] See http://www.svanen.se/Templates/Criteria/CriteriaGetFile.aspx?fileID=714, criterion R13.

**My comments concern the lifting of the ban on phosphates for the IILD category, p.24 (as requested previously by PAPA). The topic is actually summarized very well in 8.16.1, the comments section from the first meeting; thank you for your clear and concise answers and your understanding of the rationale, which indeed have led to the continued allowed use of phosphates for the IIDD category.
There is one thing however which we'd like to raise. In our rationale for IIDD, as accepted by you, we've tried to establish that actually the situation surrounding phosphates had been amended by installing proper sewage treatment, and that in an industrial context (regardless of the nature of the facility, laundry or dishwash) no significant amounts of P can enter the environment. This remedies the only concern surrounding phosphates, i.e. risk of eutrophication.
The situation around phosphates is described elaborately and essentially correctly in the document, including a list of pros and cons. However as rationale for the continued ban on phosphates in IILD, it is simply stated that alternatives exist, which is then apparently by default the preferred situation. I would have expected a similar assessment of these alternatives (pros and cons), possibly including their patent protection and hence restricted access for SMEs, their energy consumption in production, their effects on wastewater treatment cost (as provided for phosphates), and the presence of suspected carcinogenic NTA as an impurity from production. The latter even requires derogation.
We were therefore surprised that without any rationale, these substances are preferred over phosphates. It seems that phosphates are assessed against other substances, but these other substances are not assessed themselves in relation to phosphates. In other cases substances are assessed independently, as far as our knowledge goes. The current topic therefore seems to be an exception to the usual.
We therefore would like to ask that either phosphates are assessed independently (without the alternatives being accepted simply because they are there), or that a full balancing is made for phosphates versus the chemicals replacing them, and that the ban on phosphates could potentially be lifted as an outcome of such an exercise.
Of course, it is clear that a previous ban has existed on phosphates for IILD, but the sewage treatment situation has improved since the previous set of criteria was adopted, at least where non-consumer products are concerned. We hope there will be a possibility to revert the ban (depending on the outcome of the assessment) for IILD.
Incidentally the text om p. 227, second paragraph (an elaborate overview of pros and cons of phosphates, and largely correct) states "Therefore, the implementation of tertiary treatment, needed for high degrees of phosphorus removal would also imply high investment and operational costs that can be avoided if P-free detergents are used.". This is as such not true, as most of the P burden comes from humans and especially the little influx of IIDD and IILD would be negligible. This reasoning has been accepted elsewhere in the proposal. Quite the opposite is the case therefore, i.e. the cost of removal of phosphates originating from industrial laundry facilities is little, compared to the necessary cost of P removal from human excretion. Perhaps the text can be amended accordingly, so that the - otherwise essentially correct - rationale collected here may serve as a point of reference for future needs.

3.14.2 Further research on ILDD and phosphates

One of the most controversial points of discussion regarding the P-content and the kind of P-compounds that can be used when formulating the detergents is the use of phosphates in Industrial and institutional laundry detergents.

As summarized in Table 85 and in the Section 8.13.2.1 of the 2nd Technical Annexe (JRC 2015) there are trade-offs between phosphates properties from the environmental and performance points of view.

- On one hand, phosphates are associated with a high eutrophication potential. In general, the breakdown of the phosphorus complexes in detergent wastewater creates freely available phosphates which causes are enhanced if phosphates are directly discharged to the ecosystem. This fact can contribute to an oversupply of phosphate in waterways and cause an imbalance of the aquatic ecosystem. Additionally, the water framework directive implementation report (ENV 2015) pointed out the eutrophication remained a major threat in about 30% of water bodies in 17 Member States. Untreated or insufficiently treated waste water discharges significantly contribute to these problems.
- On the other hand, it has been pointed out that phosphates have unique detergent properties. They are able to softener the water, adjust the pH, loosen the soil and keep the particles in suspension. These properties become especially relevant when the detergents are used under severe conditions such as very much shorter cleaning cycles (e.g. few minutes in professional dishwashers or laundries) or more demands form hygiene as it is the case of IILD. Additionally, personal information from the industry claims that the use of phosphates allow the reduction of the volume of water used per wash by up to a factor of two. This fact has a direct impact on the energy consumed by cycle since lower amount of water should be heated up.
- The evaluation of the pros and cons of using phosphates in professional sectors largely depends on the implementation and performance of the wastewater treatment plants (WWT). As reported in the Section 8.16.2.1 of the 2nd Technical Report (JRC 2015) the connectivity to WWT has significantly increased in the last years. Additionally, the number of plants equipped with a tertiary treatment (the only one able to reduce above 90% the phosphorus discharged to the ecosystem) has also been increased. Both figures suggest that the use of phosphates in professional products can be considered in the scheme.

3.15 Fitness for use

3.15.1 Comments from stakeholders from the 1st and the 2nd AHWG meeting

Several comments were received during and after the 1st and the 2nd AHWG Meeting. Comments are summarized in the Minutes reports. Table 83 reports the comments received after the meetings through BATIS.

Table 86 Stakeholder comments regarding fitness for use

	Stakeholder feedback	IPTS analysis and further research
Stakeholders feedback after the 1st AHWG meeting		
Reference product		
ALL	In relation to the *use of a reference product* in fitness to use, it should be the *same product throughout Europe* because Ecolabel products are suitable for all Europe, due to the difficulty to choose a leader product to make comparison. We suggest as an alternative use, a *reference formula is described in a "Framework for testing the performance of ....."*	**Comment Partially accepted** Reference products are feasible/easier to be set up for those products where a washing performance standard has been developed: laundry detergents and dishwasher detergents. This is not the case for APC or HDDs. For some of these products, currently the reference product is requested either to be a market leading product or a generic product. Market leading products are not the same in all the countries and not all the products are sold across Europe. This raises problems of unfair competition because when a product is awarded the EU Ecolabel by one CB it can be sold across Europe. So nowadays, it is easier to formulate EU Ecolabel products in some countries, what also means that products are less expensive and have a more favourable classification because they can be formulated with fewer ingredients. APC is exceptionally diverse so it is hard to envisage a universal test and a only reference product for all products and locations. This is reflected in the difficulty of defining a standard dosage. Due to this high diversity it is also difficult to assess the market leadership of a product. Therefore, it is suggested in this revision that if there is no a generic reference product, the reference product should be a product that is on the selves. Both products (testing product and reference product) shall belong to the same category (professional, non-professional, RTU, concentrated, etc) and be designed for the same area of use (WC, kitchen, sanitary, APC, glass, etc).
ALL	Indeed, the reliance on "*another consumer product" introduces uncertainty in the level of basic washing performance to achieve for an Ecolabel detergent*: the laundry category is vast, with a large multiplicity of quality tie ring, sub categories, dosages, and technical claims and with geographic specificities. The reference to a "consumer product" may lead to further complexity and confusion for stakeholders and consumers. We recommend that the AISE minimum test protocol continues to be defined as the reference, with the same pass/fail criteria, as described in the current Ecolabel criteria for laundry	
ALL	The cleaning ability must be equivalent to or better than that of a market-leading or generic reference product, approved by a competent body.	
APC	The *market-leading or generic reference* product must be approved by all competent body and must be the same in each country.	

HDD	The reference product or the test method is not very good because products tested score much better	Regarding the generic formulations to be used, all cleaners can be tested against generic formulations that should be representative of products that belong to the same group on the market, with the exception of toilet cleaners and HDD whose compositions are given in the respective IKW protocols.
APC	For the reference of bathroom cleaners RTU do not add the Rheozan. Rheozan has not to be added for the reference product of RTU bathroom cleaners because this kind of products is used with a sprayer which makes foam. RTU bathroom cleaners are not viscous. If the reference product is viscous, it is too difficult for the Ecolabel product to be as efficient or more than the reference product on the limescale removal testing on vertical surfaces	**Comment Accepted** The indication of using the same generic formulation for acidic toilet cleaners and bathroom cleaners has been removed based on the evidence provided (examples of both generic formulations will be included in the user manual). Reference product for bathroom cleaners is proposed to be either another bathroom cleaner on the market or a generic formulation that is representative of the products on the market.
LD	Ecolabel has to produce new standard formulas, updated to the real market of today. Standard formulas such as IEC-A* powder are out of date by now.	**Comment Rejected** Accepted generic formulation as representative of a product type has plenty of advantages that exceed the backwards of testing a product against a non-updated formulation.
LD	In the slides of the 1st AHWG meeting it was written: "the reference product shall be tested against another consumer product". We suppose it was a mistake. If not, we would have the following comments: for a laundry detergent, the current Ecolabel criteria (June 2014) states that the laundry powder or liquid detergent needs to demonstrate a minimum efficacy against a reference detergent Powder (IEC A 60456 Basic powder with or w/o Percarbonate and TAED with or w/o a dye transfer agent), with a well define dosage per wash. The reference to a unique, well defined, international and recognize IEC standard should be kept in with the objective of setting a robust Ecolabel standard and test protocol.	**Comment Accepted** The standard IEC 60456 was modified in 2011 and is valid until 2017. The version keeps the standard Type A* detergent. Referring to this detergent in the EU Ecolabel protocol we ensure the availability and homogeneity of the reference detergent across Europe, which are main advantages and reasons to keep it as reference product.
LD	For light duty detergents, the current reference detergent is not from an internal standard. Also the detailed composition looks far from a standard European light duty detergent. The new Ecolabel criteria should define an amended reference detergent composition and dosage instruction.	**Comment Partially accepted** For the time being, the IEC 60456 does not have a light duty detergent defined as standard detergent although work is on-going to develop a proper composition for this kind of detergent. The possibility of referring to a standard light duty detergent will be considered in the future revisions.
II	Comment from the 1st AHWG meeting: Currently there is no common reference product against which their own products should be tested (for all products in all countries) and they have stated that in some countries the reference products are less effective, and thus their performance is easier to match or beat, than in other countries but that they can be sold in all markets. Moreover, differences in interpretation of the EU	**Comment Accepted** Due to the specific requirements of the industrial and institutional cleaners and detergents, most of these products are particularly formulated for their purpose. They are detergent "a la carte" and for this reason it is - difficult to identify the market leaders and,

	ecolabel texts by different CBs were also highlighted as possibly leading to products from certain countries undergoing less stringent scrutiny than others	- difficult to decide which generic formulation is representative of the products on the market. Both conditions are needed to perform a laboratory test. Additionally and because of this specific formulation it is likely that the water hardness is already considered in the recommended dosage and that the washing temperature is known before formulating the detergent. Due to the lack of reference product, a proposal for deleting the laboratory testing for industrial and institutional detergents is proposed.
	General consensus that the notion of market leader for I&I product does not exit. As the market is restrained, a stakeholder stated that a single common reference product could be found, at least for some products as discussed.	
Laboratory or user test?		
II	Firstly, we would like to comment that we don't agree with a common approach for both consumer and professional products in terms of Fitness Check. The main reason being the fact that the market is completely different. Suppliers of consumer detergents generally don't know their customers but suppliers of professional detergents know their clients very well.	**Comment Partially accepted** The possibility of testing the industrial and institutional products by means of both laboratory or user tests is currently included in this type of products. However, and according to the information received the professional detergent sector is very specific (see rationale above). The products are tailored and formulated regarding the specific needs of the customers. Therefore, it is difficult to find standard detergent products or market-leader products to carry out the lab tests and user tests play a relevant role. On the other hand, stakeholders indicated that confidential issues may arise if information on the way the testers were selected is disclosed and test results are communicated. According to this feedback, companies are not willing to justify why a certain tester has been chosen to perform the user test. There may be several reasons, all related to confidential strategy and business information (e.g. wish to replace a product, wish to have new customers, wish to answer a specific demand from an existing customer, etc). Criteria for industrial and institutional products have been revised to ensure compliance by means of user tests.
	We think that professional, institutional or industrial products should be tested by an adequate and justifiable consumer test, all products, because it is simulated true conditions better than a laboratory test.	
	We don't agree with point (a), the internal or laboratory test, and we would like to keep the current criteria in relation to user tests for professional products.	
	In the current criteria, for the professional products the testing at user level is allowed. The current documentation does not make it clear if that will still be the case for professional laundry detergents. A.I.S.E. would like to understand if this is the case and the reasoning behind.	
Water hardness and temperature		
	BEUC and EEB believe that it is very relevant to take water hardness into consideration when setting the criteria on reference dosage for Industrial and Institutional detergents. Indeed, it would allow setting more appropriate dosage requirements as those vary according to the level of water hardness. We welcome this initiative as it would optimize the use of the product in all cleaning situations.	**Comment Rejected** Considering the information included in this table and the large differences between the professional detergent products, it seems that the water hardness would be considered by the manufacturers when recommending a proper dosage for their products
	In this sector the temperature is dictated by the process/machine, therefore the formulators do not recommend any temperature as they cannot change the equipment.	**Comment Accepted** Recommendations for the temperature in industrial and institutional detergents are not relevant as they are fixed by the equipment.

all	No. Results will flatten if this low temperature is used, making any discrimination harder to do, lowering results value. Where the actual test is already demanding too little, in our opinion. A revision for this test is already planned so we are looking for further development.	**Comment Partially accepted** Pros and cons of testing the products at lower temperature are summarized in this section: - *advantages:* ensure good performance at low temperature is the basis to recommend washing at lower temperature - *disadvantages*: testing at low temperature makes difficult to discriminate good performances from not so good, creation of unfair situations between reference and testing products, Due to the pros and cons listed above a compromise solution seems to be the allowance of testing at lower temperatures but without being applied to the reference product. In this sense, the washing performance of the reference product is not flattened and it remains as a fixed benchmark to compare with. The lower washing temperature and the successful performance of the testing product at those temperatures ensure that ecolabel products can be used in cold washings, reducing their overall environmental impacts.
LD	We do not agree with the proposal to use 30° C during performance laundry testing. We know from experience that results will be flattened, making any discrimination harder to do, lowering results value. Where the actual test is already demanding too little, in our opinion. A revision for this test is already planned so we are looking for further development.	
LD	The wash performance had to be tested at 30°C, this is not a change since June 2014.	
LD	In the current version from June 2014, it is indicated that: Page 7 2.3. Water Inlet Temperature: 20.0 ± 2.0 ºC. Products which claim to be efficient at a wash temperature lower than 20 °C shall be tested at 15°C. In this case, the water inlet temperature will be different to the wash temperature for tested product (15.0 ± 2.0 ºC) and reference detergent (20.0 ± 2.0 ºC). The water inlet temperature shall be reported for the test product and reference detergent. Page 16 2.14. Wash Program: The next table shows the different wash programs for the Ecolabel performance test. With low temperature and cold-water wash products, the washing performance will be determined at the lowest stated temperature at which the detergent is claimed to be effective. The reference detergent must be tested at 30ºC. We think that both the test product and reference detergent should be tested at the same temperature.	
LD	We acknowledge that environmental benefits of the washing process arise most of all from using less energy which means to wash at lower temperatures. Therefore it is useful to ask that all laundry detergents awarded with the EU Ecolabel shall be applicable at 30°C and maybe we accept less desirable chemicals if they are needed for this purpose. But with these less washing temperatures also some problems might arise, for example odour formation, see Austrian Comments on the Revision of the EU Ecolabel criteria of the Detergents Group 2/3 http://www.swissatest.ch/files/downloads/90d632725e685a48967925bd44cda783/Odour%20formation%20on%20textiles%20-%20Fresenius.pdf. This is why it is often recommended to wash once a month at higher	

	temperatures, for example in this German instruction manual of a washing machine http://www.miele.at/pmedia/ZGA/TX2349/9788060-000-01_9788060-01.pdf. In case of infections or immune depleting persons in a household higher washing temperatures might be needed, see p.116 here (in German) https://mediatum.ub.tum.de/doc/603197/603197.pdf.	
LD	Bearing in mind that the solution isn't only to wash at lower temperatures but also to consider *additional measures* we *don't think that the EU Ecolabel for laundry detergents shall or can be a mean to give all of this information to consumers*. We would ask the producers of laundry detergents and washing machines to do this.	**Comment Acknowledged** Regarding the *information to be given* on the Ecolabel products and the problems that can rise if low temperature washing are recommended, it is considered that information should be given to the consumers regarding: - the ability of ecolabel products to be used at lower temperatures with good washing performances - the environmental benefits of washing at lower temperatures - the sources of information about the most recommended temperature depending on several washing aspects. However, given the information on the package of the EU Ecolabel product does not prevent to be given or repeated in public campaigns or in leaflets on the washing machines.
Soil removal and cleaning performance score		
APC	For instance for the all-purpose cleaners it is demanded the fat removing capacity. However, very often that is not necessary as there is no fat to be removed.	**Comment Rejected** Greasy soil is proved to be the most common household soil and in every surface of the house. This type of soils also catalyse the deposition of other soils, therefore performance test against fat is proposed to be kept
APC	Should evaluation of burnt on soil removal be added as an additional requirement of the testing procedure for kitchen cleaners? Yes. We think it is one of the essential requirements for a cleaner kitchen	**Comment Accepted** Better classification of the cleaning products is proposed in this revision that will allow setting up more appropriate fitness for use requirements
	a) Window cleaners: The framework for testing also requires it has to be tested against water. This is not mentioned in the criterion. That should be made clear.	**Comment Accepted** Requirement of cleaning better than water added. It was included already in the protocol anyway.
DD, HDD	Clearer wording should be used for the degree of soiling throughout the document. The reference dosage talks about normally soiled dishes. The user instructions talk about "dirty" and "less dirty" dishes. What are normal, dirty or less dirty dishes? In the guidelines for testing, again other wording is used. This should be harmonized.	**Comment Accepted** Harmonization will be enhanced for all the product groups among the criteria of the same product group and among the product groups. For dishwasher detergents it is proposed to use the terms: heavily soiled, normally soiled and lightly soiled dishes. HDDs protocol includes the classifications of low fat and normal what is proposed to be changed in the criterion wording
ALL	Quel est l'intérêt de demander un nouveau test « burnt-on soil » sachant que le protocole IKW actuel utilise déjà une salissure brûlée pour le test de dégraissage ?	

	Does the criterion need to provide further information regarding the specification and supply of test soil? no	**Comment Acknowledged**
	b) <u>For sanitary cleaners:</u> The framework writes it should be 70% of the reference product. In the IKW test is written 0,7. This does not have the same precision. There should be a test for concentrated sanitary cleaners.	**Comment Accepted** Precision of the EU Ecolabel framework and IKW test should be as close as possible if the first on relies on the second one. Revision of the wording of the criteria is proposed to correct the mismatch
Number of repetitions		
HDD	Should the number of repetitions required by the testing procedures be increased to 20, in line with HDDs? Yes, for the measure of the cleaning performance: increase the number of repetitions improves data evaluation. Not for the IKW-test 'Recommendation for the quality assessment of acidic toilet cleaners (SÖFWJournal,126, 11, pp. 50-56, 2000).	**Comment Partially accepted** Although it is sure that the higher the number of repetitions, the better the evaluation of the results, there are studies that considered that 5 repetitions can lead to a good value*.The optimum number of repetitions will depend on the cost of testing and the quality of the results. Stakeholders indicated that increasing the number of repetitions of testing will increase the costs of testing which may also have disproportionate impacts in SMEs. Therefore a balance between statistical significance and cost is required. During the consultation two stakeholders provided more substantive feedback on the method employed by their own test-houses: - stakeholder A: 20 repetitions, but up to 40, could be employed with a corresponding indicative increase of test costs of around 30% over the 5 required with the criterion - stakeholder B: the existing cost for 5 repetitions is 750euro, the future cost if 20 repetitions are required will be between 3500 and 3750euros. As a comparison, laundry detergent criteria employ 15 repetitions and HDDs, at least 5 repetitions. It is therefore suggested that he APC (and HDD) test could be increased to 15 to tighten the variance within the product test in line with stakeholder's experience and to align with laundry detergents. For the APC testing, this might increase costs by perhaps 10-15% according to stakeholder A and by around 1500euros according to stakeholder B (not explained why there are dis-economies of scale).
APC	5 repetitions are sufficient (in general for all detergents)	
	Number of repetitions increased to at least 20 (this was also proposed for APCs)? Yes, for the measure of the cleaning performance: increase the number of repetitions improves data evaluation.	
	De plus quel est l'intérêt d'augmenter le nombre de répétitions à 20 alors que ce test est très reproductible ? Enfin, ces propositions d'évolutions rendraient le test beaucoup plus couteux ce qui serait encore une surcharge financière supplémentaire pour le fabricant	
	Number of repetitions increased to at least 20 (this was also proposed for APCs)? 5 repetitions are sufficient	
	For domestic or use private cleaning products the number of consumer must be smaller than 80 consumers, because it is impossible doing it.	
Test protocol		
DD	I think that IKW shouldn't be the only one. Performance on Dishwasher. We think that also in house tests method accredited ISO 17025 are valid like official dedicated Standards Method (EN, ISO). In a perspective of cooperation and transparency I am attaching a document that highlights the some considerations between the IKW and our method.	**Comment Accepted** 'or equivalent' is proposed to be introduced in the criterion wording to allow the compliance of the fitness for use criterion by means of other test procedures. The equivalence is proposed to be assessed by the competent bodies that verified the application. Some guidance on how to assess the equivalence will be given in the user manual.
	<u>We recommend that the A.I.S.E. minimum test protocol continues to be defined as the reference, with the same pass/fail criteria, as described in the current Ecolabel criteria for laundry detergent</u>	

Stakeholders feedback after the 2nd AHWG meeting		
Number of testing/ repetitions for testing		
All	Maybe 5 is too less, shouldn't this been increased to 15? APC - HDD Laboratory testing Number of Repetitions- 15 is a good compromise between quality (data/statistical evaluation) and costs APC User Test : 5 repetition for this test is good	**Comment rejected** The optimal number of repetitions depends on the personal opinion of the involved party. Along the revision process, it was proposed an increase in the number of repetitions. This idea received a strong opposition from the industry that provide information that allowed a comparison regarding the increase in cost and improvement in results accuracy. Therefore a lower number of repetitions is proposed for this final criteria draft.
	The proposal of 15 repetitions for the performance test is not necessary. 5 test repetitions are sufficient because of the good reproducibility. The increase of repetitions will generate a useless additional cost. The comparison with the 15 cycles for laundry detergent test is not relevant because for the stain removal (which can be compared to the HDD performance test or the APC performance test) there is only 6 cycles (or repetitions). The 15 repetitions are only for basic degree of whiteness and colour maintenance tests, which are specifically test requiring cumulated washes in order to see or not effects.	**Comment accepted** It is important that the number of repetitions ensures the accuracy of the fitness for use testing while at the same time keeps the testing cost under a certain limit. During the revision of these EU Ecolabel criteria the pros and cons of increasing the number of repetitions has been pointed out. After analysing the comments it seems that the optimal testing number depends on the type of detergent. It was commented that 5 repetitions are enough to show the efficacy of HSC and HDD and that additional repetitions will bring higher costs but not relevant higher accuracy. Only one comment suggested that higher number of testing is recommended for these two types of detergents. On the other hand, it was suggested a higher number of repetitions when laundry detergents are tested, especially for testing the degree of whiteness and colour maintenance tests. Therefore, in the protocol of the laundry detergents a higher number of repetitions will be proposed.
	The proposal of 15 repetitions for the performance test is not necessary. 5 test repetitions are sufficient because of the good reproducibility. The increase of repetitions will generate a useless additional cost. The comparison with the 15 cycles for laundry detergent test is not relevant because for the stain removal (which can be compared to the HDD performance test or the APC performance test) there is only 6 cycles (or repetitions). The 15 repetitions are only for basic degree of whiteness and colour maintenance tests, which are specifically test requiring cumulated washes in order to see or not effects.	**Comment accepted** It is important that the number of repetitions ensures the accuracy of the fitness for use testing while at the same time keeps the testing cost under a certain limit. During the revision of these EU Ecolabel criteria the pros and cons of increasing the number of repetitions has been pointed out. After analysing the comments it seems that the optimal testing number depends on the type of detergent. It was commented that 5 repetitions are enough to show the efficacy of HSC and HDD and that additional repetitions will bring higher costs but not relevant higher accuracy. Only one comment suggested that higher number of testing is

		recommended for these two types of detergents. On the other hand, it was suggested a higher number of repetitions when laundry detergents are tested, especially for testing the degree of whiteness and colour maintenance tests. Therefore, in the protocol of the laundry detergents a higher number of repetitions will be proposed.
	The proposal of 15 repetitions for the performance test is not necessary. 5 test repetitions are sufficient because of the good reproducibility. The increase of repetitions will generate a useless additional cost. The comparison with the 15 cycles for laundry detergent test is not relevant because for the stain removal (which can be compared to the HDD performance test or the APC performance test) there is only 6 cycles (or repetitions). The 15 repetitions are only for basic degree of whiteness and colour maintenance tests, which are specifically test requiring cumulated washes in order to see or not effects.	**Comment accepted** It is important that the number of repetitions ensures the accuracy of the fitness for use testing while at the same time keeps the testing cost under a certain limit. During the revision of these EU Ecolabel criteria the pros and cons of increasing the number of repetitions has been pointed out. After analysing the comments it seems that the optimal testing number depends on the type of detergent. It was commented that 5 repetitions are enough to show the efficacy of HSC and HDD and that additional repetitions will bring higher costs but not relevant higher accuracy. Only one comment suggested that higher number of testing is recommended for these two types of detergents. On the other hand, it was suggested a higher number of repetitions when laundry detergents are tested, especially for testing the degree of whiteness and colour maintenance tests. Therefore, in the protocol of the laundry detergents a higher number of repetitions will be proposed.
	The proposal of 15 repetitions for the performance test is not necessary. 5 test repetitions are sufficient because of the good reproducibility. The increase of repetitions will generate a useless additional cost. The comparison with the 15 cycles for laundry detergent test is not relevant because for the stain removal (which can be compared to the HDD performance test or the APC performance test) there is only 6 cycles (or repetitions). The 15 repetitions are only for basic degree of whiteness and colour maintenance tests, which are specifically test requiring cumulated washes in order to see or not effects.	**Comment accepted** It is important that the number of repetitions ensures the accuracy of the fitness for use testing while at the same time keeps the testing cost under a certain limit. During the revision of these EU Ecolabel criteria the pros and cons of increasing the number of repetitions has been pointed out. After analysing the comments it seems that the optimal testing number depends on the type of detergent. It was commented that 5 repetitions are enough to show the efficacy of HSC and HDD and that additional repetitions will bring higher costs but not relevant higher accuracy. Only one comment suggested that higher number of testing is recommended for these two types of detergents. On the other hand, it was suggested a higher number of repetitions when laundry detergents are tested, especially for testing the degree of whiteness and colour maintenance tests. Therefore, in the protocol of the laundry detergents a higher number of repetitions will be proposed.
	5 repetitions are enough to prove the efficacy of the product. Increasing the number of repetitions will increase a lot the cost of the trials (2000 € for 15 repetitions vs 700 € for 5 repetitions)	

	We believe that number of repeats should be as per the IKW protocol. We don't think it makes sense to do 15 repetitions with two soils in doing the plate washing, leading to 400-600 plates to be washed for every detergent to be tested. It is also important to note that a suggested change to the criteria should be based on facts. Therefore, if it is suggested that more repetitions or other extensions should be required, it should at least be demonstrated that there is a need for doing so. Have there been concrete examples where 5 repetitions have not been sufficient? Are products improperly approved? How have these cases been handled in practice and is there any evidence demonstrating that an increased number of repetitions will change the outcome / improve the method's safety?	
	We suggest keeping the current number of repetition (5) for test, because we think that more repetitions will significantly increase the cost of formulation.	
	There is a mistake: five or fifteen?	
	We think "5" is sufficient because of the good reproducibility. The increase of repetitions will generate a useless additional cost and this will be reflected in the prices However we can require several guarantees of laboratories like accreditation, etc.	
HSC	On the Framework for testing performance, kitchen cleaners are part of sanitary cleaners whereas the new scope definition of including kitchen cleaners on all purpose cleaners subcategory.	Kitchen cleaners share characteristics with all purpose cleaners and sanitary cleaners, therefore the inclusion of this product group into either the first or the second product group would be possible. However, we consider that it is better to create a stand-alone product group, in this sense it is much easy to clearly specify the limits. Regarding the type of soiling to be tested, we still consider that lime is also important as these products are also used to remove water marks.
	As the criteria are written now kitchen cleaners aren't part of the sanitary cleaners anymore.	
	We think this effect (limescale??) must be tested only if the kitchen cleaner claims this effect. Indeed, kitchen cleaners are not used to claiming descaling unlike sanitary cleaners.	
Reference product or reference generic formulation		
	Regarding the performance test for APC, sanitary, kitchen and window cleaner, it's essential to have European target for each type of product which will be the same for all EU products instead of market leading product to avoid unfair competition.	**Comment Accepted** Market leading products as reference products are no longer proposed, even though they can still be chosen for reference as they are a marketed product. It is clear that the market leadership depends pretty much on the member state or region being impossible to suggest a product across Europe. Generic formulations are suggested to be used as reference products for several of the products. For others, a market product (that means a product that is currently in the shelves) with the same characteristics as the testing product in terms of dilution, concentration, purpose, form, etc. is proposed to be used as reference product.

	The market-leading for all purpose cleaners are not the same in each country. This raises big problems of unfair competition. When a product is ecolabelled by one competent body it can be sold in every other European country even if it's less effective than the market-leading of the other country. So nowadays it's "easier" to formulate ecolabel APC in some countries than in other countries: product are less expensive and can have a more favourable classification because you can formulate with less ingredients. This raises problems of unfair competition. The Ecolabel criterion is supposed to be the same in every country but for the criterion 8 "Fitness for use" it demonstrates that's not true. This undermines the European Ecolabel.	**Comment Acknowledged**
	Our applicants say that targeted products of AFNOR are more efficient than targeted products of others CB. Is it possible to give the same targeted product for each category for all countries? In such cases, we propose to keep marketed products decided by AFNOR (if they are sold in other countries) because they are more discriminating than the others but we have about 1000 certified products (so they're not too discriminating). It's important to keep selectivity. If it isn't, we can impose only generic formulation.	
	Our applicants say that IKW is too gelled for bathroom cleaners because of Rheozan. It's inappropriate for testing bathroom cleaners since they don't need to be gelled to be efficient but as bathroom cleaners are compared with IKW, they are prejudiced.	**Comment Accepted** A proposed generic formulation that does not contain Rheozan is developed for bathroom cleaners.
	For the reference of bathroom cleaners RTU do not add the Rheozan. Rheozan have not to be added for the reference of bathroom cleaners RTU because this kind of products is used with a sprayer which makes foam. Bathroom cleaners RTU are not viscous. If the reference is viscous. It is too difficult for the Ecolabel product to be as efficient than the reference on the limescale removal testing on vertical surfaces	
	For bathroom cleaners, we think the IKW reference product without Rheozan would be a good choice	
	We suggest creating frame formulations as reference products for any category (multi-purpose cleaners, kitchen cleaners, sanitary cleaners and window cleaners). Today any competent body select a reference product for its country and this operating method create unbalanced situation across the UE. A "European frame formulation" for each category will solve this problem. We are available to give you support for setting frame formulations.	**Comment Accepted** Representative generic formulation for each of the product types covered in this revision would enhance the fitness for use criteria and overcomes several problems related to the selection of the reference products. However, for the time being, no unanimous agreement seems to be reached on the most representative formulation for some of the product groups. Key stakeholders were contacted for this purpose achieving agreement on the following generic formulations:

		- laundry detergents - dishwasher detergents - toilet cleaners - bathroom cleaners - hand dishwashing detergents - all-purpose cleaners
	It is necessary detergent references (products or formulations) (or a list) for the fitness for use.	**Comment Partially accepted** Due to the difficulties of reaching a unanimous agreement on the reference product, reference generic formulations are proposed for - laundry detergents - dishwasher detergents - toilet cleaners - bathroom cleaners - hand dishwashing detergents - all-purpose cleaners. The proposed generic formulations are sourced from international standards or well-recognized protocols for testing either the appliance where detergents are going to be used or protocol for assessing the quality of the specific detergents or cleaners. However, not all the cleaners and detergents types covered by these product groups have an agreed generic formulation that properly represents the products on the market. See the comment above for further information.
User test, lab test or both		
II	I think that we should allow laboratory test and consumer test for professional products, as CB I always prefer a laboratory test and I don't see a reason to not allow this. And additionally the reference for toilet cleaners is a generic formulation so this has to be done by a laboratory test.	**Comment Accepted** Two main reasons have been considered to keep (reintroduce) the laboratory test for industrial and institutional products in the third criteria draft (laboratory testing was removed in the second criteria draft): - the higher flexibility that the laboratory testing bring to the criteria as the manufacturers can decide to test their products by using a user test or a lab tests, - the no availability of reference products for some products that made difficult the laboratory testing has been replaced by the possibility of choosing a market product for comparison.
	I keep still also the Laboratory tests together to User test to allow a choice for the producers. Laboratory tests are a key evaluation for quality (accreditation ISO 17025) and ensure independence.	
	The word "preferentially" leaves room for discussion. The guidelines concerning the test laboratories don't have to be followed?	**Comment Accepted** The word will be removed, as the decision for testing the products will be fully taken by the manufacturers
	We disagree with allowing user testing. Only laboratory testing guarantee a total impartiality.	**Comment rejected** The comments received asking for reintroducing the laboratory tests and keeping the user tests seem to be the more flexible option for the producers. This option does not seem to be detrimental for the purpose of the criterion
Verification documentation		

IIDD	The appendix II is a copy and paste of the appendix II of I&ILD. We think the appendix II must be modified on 1 point: the minimum of 400 cycles must be deleted because of the too long test procedure. If you calculate 4 cycle/day with 5 working days, the minimum of the test period would be 25 weeks which is an aberration. The "4 weeks" obligation is sufficient.	**Comment Accepted** There was a mistake when re-structuring the document. The appendix II of the IIDD, even if being in line with the Appendix II of the IILD is different to reflect the particularities of this product group.
HDD	The test protocol for HDD asks much more detailed documentation than the one for the APC e.g. description how temperature and humidity are kept constant. This is this is somewhat exaggerated. I think that the documentation requirements of the laboratory test of APC are sufficient. Anyway it is better to harmonise the test frameworks where possible.	**Comment Accepted** A simplification of the documentation to be handed in to demonstrate the fitness for use of the detergents is proposed in this third proposal. The simplification of the documentation will mirror the documentation presented in the APC fitness for use criterion..
All	to make it more clear this "or" should be "and"	
	I find the combination of the table and the text not so clear, it is a bit confusing.	**Comment Accepted** Clear table and text have been replaced
	As mentioned in 2.5.8 "Recommended dosage for a standard load for at least two levels of soiling shall be included, tests shall be carried out for at least two levels of soiling.	
	As explained previously, this sentence "*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).*" must be added to the paragraph 6.5.7 Fitness for use, in the framework page 74-75 (or 82-83).	**Comment Accepted**
	Talking from my experience, the products obtain always a much better effect than the IKW reference. It seems that this reference product doesn't perform very well. Nevertheless I think that using the same reference product in all Europe is always better than using a market product. But I would like to harmonize this with the requirement for the APC, namely "*for the test product to be considered to have fulfilled the performance requirements its results must be positive in all of the repetitions*."	**Comment Accepted**
	Is it necessary that the products are tested against water? Perhaps only for window cleaners?	**Comment Accepted** Only window cleaners in the RTU formulation are proposed to be tested against water, due to the large proportion of water in the formulations.
Which type of information is meant here?		
All	For six detergents product groups, It needs to be specified clearly that an additional test has to be provided for all additional claims (for example for this decision: assures a fast drying without traces and shininess (APC); non-foaming or low-foaming detergents (APC); prolong sanitation facilities lifetime; renovate/protect (floors) etc.) We can add "*In general, claims on the packaging shall be documented either through* performance testing or other relevant documentation (e.g. claims of removal of certain stain types, claims of benefits for certain types of floors or	**Comment rejected** The purpose of the fitness for use criterion is to ensure that the cleaner or detergent is fit for its purpose in terms of cleaning and wash performance. Additional claims such those proposed in the comment are out of the scope of this policy tool.

	other claims of specific properties/benefits of the product)."	
HDD	We think there is a mistake because we don't have concentrated products for HDD.	**Comment rejected** Information collected suggests that on the European market there are concentrated and super-concentrated HDD products. Information regarding this aspect was reported in the preliminary report.
LD	A wash temperature lower than 20°C Do washing programs lower than 20°C exist?	**Comment acknowledge** For the best of our knowledge, there are washing machines equipped with cold water programmes. A note in the performance test for laundry detergents makes reference to this point: "*Please note that most of the older MIELE washing machines do not offer cold water programs. Those MIELE machines which offer cold water programs normally heat up the entering water to 21C, which is useful for products which claim to be efficient at 20C. For test runs at 15C the heating elements of the washing machine have to be disconnected in order to prevent the heat up*"
	- HDD-DD-''APC'' I uphold that not IKW methods shouldn't be the only one. '' or equivalent with accreditation ISO 17025''	**Comment accepted**

* In the IKW protocol for hand dishwashing detergents available at www.ikw.org/fileadmin/content/downloads/Haushaltspflege/HP_EQ-Handgeschirr-e.pdf. There is an example of testing HDD with 5 repetitions. The results are shown for 8 products. The testing follows the ANOVA analysis and reaches a level of significance of 95% being at this level only 2 out of the 8 products with a significantly different cleaning performance.

3.16 Information

3.16.1 Comments from stakeholders from the 1st and the 2nd AHWG meeting

Table 87 Stakeholder comments regarding user information

	Stakeholder feedback	IPTS analysis and further research
Stakeholder feedback after the 1st AHWG meeting		
LD/ DD /APC	We want to keep the *safety phrases keep away from children, don't mix different cleaners and don't inhale spray*. These sentences are not always mandatory (not if the product is not classified) and they are important information for consumers to prevent accidents and to educate consumers.	**Comment partially accepted** The statements regarding the health and safety measures are not under the scope of the EU Ecolabel. However, their importance makes it worth reconsidering whether the statements and the recommendations of use should be included on the packaging, especially for products intended to be used in the domestic sphere. The statements of safety are proposed to be kept but not the recommendations on the temperatures
LD	*If you are allergic to house dust, always wash bedding at 60°C. Increase wash temperature to 60°C in case of infectious disease*. We are in favour of keeping these sentences. Education of the user is very important. The *washing recommendations (lowest temperature, full load, dose according to soil and water hardness*) are very important and should be maintained.	
Stakeholder feedback after the 2nd AHWG meeting		
APC	*Resource saving measures: what is meant with "if applicable"?* Should it be *"cold water"* because the criteria for cleaning services refer to "room temperature", which is not the same.	**Comment Accepted** All references to 'room temperature' have been changed to 'cold water' i.e. cold tap water. Removed 'if applicable'. New text reads: *'unless it is the recommendation of the manufacturer to use water at a specified warmer temperature to dilute undiluted products for use*.')
APC	Are all *non RTU products targeted*? This should be clarified.	**Comment Accepted** Dosage requirements have been split into RTU products and undiluted products. All undilutable products shall comply with this requirement.
APC	Why is this voluntary? Not many companies will add it when it becomes voluntary	**Comment Rejected** We understood that this comment refers to the information appearing on the EU Ecolabel. It should be acknowledged that space on user labels is limited and may be reducing as formulations become more concentrated. In addition, there is no guarantee that more information on labels will overwhelm consumers with messages. It is therefore EU Ecolabel

		policy to identify key messages that might be delivered to users and consumers - should space allow - but to leave it to the manufacturer or retailer to decide which if any of these to promote.
HDD	The dosage of the product has a high impact but is not easy to regulate. *Only mentioning the dosage in "ml" is not very informative for consumers. T*here is no clear guidance in the criteria how many ml the volume of a tea spoon is (sometimes translated into coffee spoons), which makes it difficult to verify. *Prevention of overdose should be the goal so we should look for a good way to achieve this.* For example a phrase which indicates that foam on the washing water is not needed to get clean dishes could be an option or the sentence "*use as little as possible".*	**Comment Accepted** The requirement of the User information criterion sets that information on the recommended dosage should be included. The requirement of expressing the metric in international units (e.g. ml or g) has been removed as it is not very useful for consumers, instead of that a new requirement is introduced. The products intended to be sold for consumers should include a dosage system. This system will make easier to use the right dosage, neither more nor less.
All	We would like to suggest the following additions to the proposed common template: "*The applicant shall take suitable steps to help consumers respect the recommended dosage, making available a dosage device, where relevant, and/or indicating the recommended dosage, where relevant, in a well-known metric."*	**Comment Partially accepted** The text proposed or equivalent has been included whenever relevant e.g. consumer products.
All	In our *view dosing instructions are most important in this criterion*, any other additional text should be limited as much as possible	**Comment Accepted** We acknowledge that the *dosage information and the dosage system* are the most important point in this criterion. The *idea of setting a mandatory dosage system* for consumer products and those that could be classified or intended to be sold as consumer products seems reasonable as it seems to be the most effective way to provide the correct dosage in household spheres. However, this *requirement on dosage system* shall be set in the criterion dealing with the *packaging requirements* (in most of the criteria sets is Criterion 6). *The information on how to use this dosage system shall be kept in this criterion*. We agree with the proposal of setting a mandatory dosage system and dosage information for those products intended *to be used in household spheres.*
	Who will decide when something is possible or not? I'm sure that this will be a point of discussion. *It seems that the dosage is very important for the environmental impact, so it is key that the correct dosage is used, therefor it seems essential to me that a dosing system is available for APC, HDD, LD and DD.* Certainly if it is true that more and more concentrated products are available on the market. Overdosing will have even a bigger impact. Additionally this will make life easier for consumers, because nobody knows what 5ml or 5gr is and it will be economical for them too. *This will have also an impact on the weight utility ratio, but we can exclude dosing systems from this criterion.*	
	Very good proposal, we agree with this precision. *This clarification must be added for all decisions if appropriate (IILD, HDD, APC and others ...etc.)*	
	Systematically require a convenient dosage system not such as an option. The quantity of product used is closely linked with the environmental impacts identified for the product.	

All	We agree on *giving clear information about product dosage*, but the suggestion of using *specific dosage systems or tools for the professional sector* should be optional and not mandatory. The professional product may be used at different concentrations and with automatic dosing systems.	**Comment Accepted** We acknowledge that the provision of a dosage system for those products intended to be used in the institutional and industrial sector is not reasonable. Institutional and industrial products are, sometimes delivered in bulk or big packages by the manufacturers and then these products are transferred to smaller containers or automatic dosing systems. Therefore, the dosage system's utility for which it was created can be drastically reduced. For industrial and institutional detergents and cleaners, *the provision of a dosage system should remain optional, while the dosage information in both metrics shall be kept*
DD/ LD	The *indication of water hardness on dosing will be very difficult to indicate on the packaging because of the small size of the product*. With the CLP, the increase of regulatory information required on the packaging already overload the labels. It will technically difficult to add additional dosing information depending the water hardness	**Rejected** Information about the water hardness and providing the corresponding dosage is very important for several types of detergents such as laundry detergents (both LD and IILD ones). These detergents contain surfactants in the composition that act as water softeners. Therefore the harder the water used for washing, the bigger the needed dosage. We acknowledge the changes in the CLP regulation and the implications on the labelling design, therefore we propose to keep this information if applicable, what can be the case for those products that is relevant (e.g. professional products and laundry detergents).
HDD	We think that this recommendation is inappropriate for HDD because the high temperature helps with degreasing and drying.	**Comment Rejected** It is true that a temperature higher than 50-55C helps removing the grease from the dishes and fasters the drying process. However, *this fact is especially important in the case of automatic dishwasher process* while in the case of *hand dishwashing the mechanical aspects are of relevance*. Additionally, in most of the cases, the dishes are dried either leaving the dishes standing for a while or with a cloth. In both cases, the contribution of cleaning at higher temperature is not significant. *Not specific temperature is included in the criteria*. The wording intends to be just *a reminder of washing as colder as possible* since the LCA studies show that the environmental impacts due to the water hearing are the most significant ones
LD	In criteria 8 b the producer shall recommend a *washing temperature of no more than 30 C.* For clarity is should be established that this product group is for products which will function at 30 C or less.	**Comment Accepted** Ecolabel LD should perform well at lower temperatures to be able to reduce the overall environmental impacts caused by their use. LCA studies of LD as showed in the Preliminary Reports showed that heating up the water for washing was the main environmental aspect. Additionally, a reduction of the washing temperature is only addressed in the user information and the fitness for use criteria. The proposal of including information in the EU Ecolabel statements are proposed. 30C was estimated a temperature that is low enough to get good washing performance results by the washing machines and at the same time to significantly reduce the environmental impacts caused by washing. However, if there are products on the market that are able to perform well at even lower temperatures, the EU Ecolabel must not prevent their use or development. The current average washing temperature used by the Europeans is estimated as
LD	The recommended *washing temperature should indeed be 30°C* - however this should not block the manufacturer from indicating that the product is also suitable at higher temperatures i.e. if the consumer is allergic to dust mites, washing at 60°C is necessary.	

		41C.
	There is a mistake → 30°C	
		Better wording seems to be needed in the criteria. The aim of the criterion is: a) Recommend a washing temperature equal or lower than 30C by the manufacturer. Lower temperatures can be recommended if the laundry detergent claims to be effective at lower temperatures and this claim is successfully proved. All EU ecolabel awarded products must be effective at least at 30C b) does not prevent from providing information about the washing processes at higher temperatures under certain conditions
	As explained previously, it's important to specify in the name of products that these detergents have to be used only for white textiles. So there should be no mention of colours like "separate white and colours textiles"	**Comment Rejected** There are no differences among the criteria between heavy duty detergents and colour safe detergents. Therefore it is proposed to have only one name and one definition for both detergents. The separation of textiles regarding the colours can be done or recommended as long as the washing is full load.
	An applicant informed us that washing with full loads can be counterproductive because the laundry can't rotate properly. Maybe we can replace by "avoiding half loads"	**Comment Rejected** According to the information provided in preparatory studies for the ongoing revision of the Ecodesing for washing machines, the washing performance index is measured at full and half-loads and a minimum value should be averagely reached to place the washing machine on the European market. This requirement ensures that washing machines are able to provide good cleaning performance at full loads under the standard washing programmes. Opposite opinions are expressed regarding the pros and cons of washing half and full loads. Half loads allow the laundry rotating while full loads allow higher friction among the cloths, being in both cases positive effects to reach better washing performance.

Table 88 Stakeholders feedback on the criteria from the 2st AHWG meeting on: information appearing on the EU Ecolabel

	Stakeholder feedback	IPTS analysis and further research
Information appearing on the EU Ecolabel		
All	It's necessary to separate both paragraphs: "*The logo should be visible and legible. 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*"	**Comment Accepted**

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