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Development of EU Ecolabel Criteria for Sanitary Products

Technical Report – Draft v.3

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PE INTERNATIONAL
EXPERTS IN SUSTAINABILITY

DEKRA

Development of EU Ecolabel Criteria for Absorbent Hygiene Products

(formerly referred to as “sanitary products”)

Technical Report – Draft v.3

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Table of Contents

List of Abbreviations

ABL	absorption before leakage
ADL	acquisition and distribution layers
AHP	absorbent hygiene products
AOX	adsorbable organic halogen compounds
CS_2	carbon disulfide
CHP	Combined heat and power plant
CLP	Classification, labelling and packaging
COD	hemical oxygen demand
CSA	Canadian Standards Association
CTMP	Chemi-Thermo-Mechanical pulp
ECF	Elemental Chlorine Free
ECOCERT	Organisme de contrôle 6 de certification au service de l´homme et de l'environnement
EDANA	The international association for the nonwovens and related industries
EPD	Environmental Product Declaration
EU	European Union
ESP	Electrostatic precipitator
FF	Fabric filter
FSC	Forest Stewardship council
GmbH	Gesellschaft mit beschränkter Haftung (company with limited liability)
GOTS	Global organic textile standard

GWP	Global Warming Potential
H_2SO_4	Sulfuric acid
HRIPT	Human Repeat Insult Patch Test
IPTS	Institute for Prospective Technological Studies
ISO	International Organization for Standardization
JRC	Joint Research Centre
LCA	life cycle assessment
LDPE	low density polyethylene
NaOH	Sodium hydroxide
NaOCl	Sodium hypochlorite
NOx	Nitrous oxides
P	Phosphorus
PCR	product category rules
PE	polyethylene
PEFC	Programme for the Endorsement of Forest Certification Schemes
PET	polyethylene terephtalate
PP	polypropelene
PU	polyurethane
REACH	Registration, Evaluation, Authorisation and Restriction of Chemical substances
S	Sulphur
SAF	superabsorbent fibres
SAP	superabsorbent polymers
SFI	Sustainable Forestry Initiative
SVHC	substances of very high concern
TCF	Totally Chlorine Free

TEWL	Transepidermal water loss
TMP	Thermomechanical pulp
Zn	Zinc

1. Introduction

The Institute for Prospective Technological Studies (IPTS) delivers scientific and interdisciplinary analyses with the overall goal of supporting the EU policy-making process. In particular, the services of the Sustainable Consumption and Production Unit within the IPTS include providing socio-economic analyses with regards to key aspects of sustainable consumption and performing techno-economic and environmental impact assessment of technologies, products and processes.

The aim of this project is to develop EU Ecolabel criteria for absorbent hygiene products (AHP).

Please note that the product scope initially referred to "sanitary products". However, during the course of this project, it was recommended by stakeholders to change the name to "absorbent hygiene products (AHP)".

The implementation of the EU Ecolabel scheme will assist in the reduction of negative impacts of consumption and production on the environment, on human health and natural resources. The project is led by the Joint Research Centre's Institute for Prospective Technological Studies (JRC-IPTS) with the technical support of DEKRA Consulting GmbH together with PE INTERNATIONAL.

The preliminary report delivered for this project outlines the scientific basis for the development of EU Ecolabel criteria for AHP. The report, available at http://susproc.jrc.ec.europa.eu/sanitaryproducts/stakeholders.html, contains the following information:

- The rationale for the products to be included in this project;
- A review of existing legislation, standards and environmental schemes outlines rules, requirements and criteria currently in existence for the relevant products;
- A market analysis for the products within the scope of this project assisting in understanding the economic relevance of the selected AHPs;
- A technical analysis providing information on the composition and functionality of AHPs, describing production processes and the main materials needed for the manufacture of AHPs and providing insights on the potential environmental burdens associated with AHPs over their entire life cycle.

In order to award AHPs with an EU Ecolabel, a set of criteria has to be defined. Based on the information contained in the preliminary report, an initial set of criteria was developed. This set of criteria was identified considering factors such as:

- The environmental relevance of requirements over the life cycle of AHPs,
- Quality and performance issues of relevance for AHPs
- Potential impacts on human health;
- Alignment with relevant pieces of legislation (e.g. Regulation (EC) No 66/2010 on the EU Ecolabel);

- The effectiveness and feasibility of the requirement, also in terms of assessment and verification;
- The potential for improvement.

Feedback gained through stakeholder consultations was also considered and discussed.

This report outlines the list of criteria currently proposed for the EU Ecolabel for AHPs. A definition for the product scope is provided in Section 2 and, then, each draft criterion is presented, including: rationale; evaluation of technical feasibility, potential costs and benefits; assessment and verification methods; preliminary proposal of the criteria text. Where suitable, the relevant criteria thresholds are also described.

Companies wishing to apply for the EU Ecolabel will have to provide evidence that they fulfil the criteria for a particular product and will then be awarded the right to display the EU Ecolabel logo on their product or packaging.

2. Definition of the product group scope

In accordance with the product scope as defined in the preliminary report (Sections 2.4), the following definition is proposed for the product group scope:

1. The product group "adsorbent hygiene products" shall include products which:

- *a. Are used for the physical and direct collection of human body waste streams and*
- *b. Are composed of a mix of natural fibres and polymers, with the fibre content lower than 90% by weight and*
- *c. Are disposable.*

2. The product group shall comprise:

- *a. all kinds of children's diapers*
- *b. all kinds of sanitary pads/napkins and panty liners*
- *c. all kinds of tampons*
- *d. breast pads*

3. The product group shall not comprise incontinence products and any other type of products falling under the scope of the Council Directive 93/42/EEC 14 June 1993 concerning medical devices.

Area of discussion:

Based on the feedback received by some stakeholders, it is suggested that **products with specific design and size** (e.g. a size-4 pull-on diaper produced by the company X) were awarded the EU Ecolabel. This option is considered to allow some flexibility to producers.

A possible alternative would be to assign the EU Ecolabel to **products with the same design** (e.g. all the pull-on diapers of the same product line produced by the company X).

Reasoning in terms of **combination of products fulfilling a certain function** (e.g. all the types of diapers produced by company X and used during the diapering period) does not seem practicable within this context.

Pros and cons of these options will be discussed at the **2nd AHWG meeting** (Brussels, 24 April 2013).

3. List of Proposed Criteria for the EU Ecolabel of Absorbent Hygiene Products

Following the outcomes of the preliminary report, the below EU Ecolabel criteria are suggested for AHPs:

Table 1. Overview of criteria areas and individual criteria suggested for the EU Ecolabel of AHPs

Criteria area	***Proposed criteria***
Materials and design	1. Use of materials 2. Fluff pulp 3. Man-made fibres 4. Cotton 5. Polymers 6. Other materials
Chemicals	7. Excluded or limited substances or mixtures
Manufacture	8. Minimisation of the production waste
End-of-life	9. Disposal of AHP
Fitness for Use	10. Fitness for use and quality of the product
Other issues	11. Information appearing on the EU Ecolabel 12. Social aspects

4. EU Ecolabel criteria proposal

4.1 Materials and design

As apparent from the outcomes of the preliminary report, materials are the main driver in determining the environmental impacts of AHPs since they contribute for 62%-97% to all environmental impact categories.

The first action that could significantly improve the environmental performance of the products would be to act on the eco-design of AHPs to decrease the weight of the product and to select more eco-friendly materials, while at the same time ensuring the fulfilment of the functions expected from the product.

LCA is the key tool to depict the environmental impacts of products but at the moment it seems difficult to set criteria based on life cycle indicators and/or requiring applicants to carry out LCA studies. This is also due to:

- The lack of solid and widely accepted rules (the Commission has developed a Product Environmental Footprint methodology but conditions are not yet mature enough for its application to AHPs).
- The lack of information about the performance variation within equivalent categories of AHPs.

Environmental impacts are a function of product design (weight and composition) and performance of materials. Decupling the issue in two parts can be seen as a practical way to simplify and solve the problem. In general, environmental benefits could be indeed achieved through:

1. Restrictions in the **use of materials** for AHPs;
2. Requirements with which to identify **materials and components** presenting superior environmental performance in terms of sourcing and production.

With respect to the **first issue**, LCA evidence show that environmental impacts can be decreased through a reduction of the product weight (and thus with a lower use of materials). In some cases (e.g. diapers), environmental benefits have been obtained through a change of product design and composition. However, influencing the composition of the products through a direct restriction of some materials is generally seen by industry as a limit to innovation.

Setting a maximal weight threshold could be the initial parameter of screening, at least **for some types of AHPs**. Products offering a better or a worse environmental performance could be otherwise selected based on **environmental indicators**, for instance the Global Warming Potential (GWP), which expresses the impact on climate change given by greenhouse gases (GHG) emissions in terms of equivalent mass of CO_2. The implementation of one of these options would require direct

support of stakeholders in order **to collect information on products categorization, weight and composition** with which to define such thresholds.

With respect to the **second issue**, setting only thresholds per mass of product on specific environmental issues (e.g. GWP per kg of AHP) is not considered by the Commission a suitable and coherent approach. Such criterion indeed would focus on the composition of the product without taking into account for the overall amount of materials used in the product itself. In other terms, the potential environmental benefits of manufacturing a product A which present a lower GWP per kg than a product B may be offset in practice if A is sufficiently heavier than B. Reasoning in terms of mass of product does not ensure that more eco-friendly products are placed on the market, reference to the overall size of functionally equivalent products is necessary. Moreover, criteria should be flexible and not hinder innovation. For instance, defining fixed characterization factors for a pre-set list of materials could be an over-simplification of the reality since this would not allow taking fully into account for the different performance of alternative material options (e.g. renewables-based materials, as described in the preliminary report).

In order to understand which requirements on materials are likely to produce some environmental benefits, results from the background analysis have been coupled with pieces of information contained in relevant BREF documents[1,2,3] in available literature on chemistry[4], in environmental criteria developed for AHPs and/or other products by the Commission or by other organisations[5,6]. Stakeholders have been also involved actively in the process through questionnaires and personal interaction.

The proposed set of **criteria on materials** is presented in the followings. The general goal of these requirements is the reduction of the environmental impacts in the sourcing and production of materials (due, for instance, to emissions into water and air and/or to consumption of energy and resources). Requirements even focus on substances and materials of potential concern for AHPs.

Option 1: Setting maximal weight thresholds

The weight thresholds reported in Table 2 below shall be respected.

Table 2: Examples of potential requirements for some AHPs

Product		Maximal weight threshold
Baby diapers	Taped	(0.5 x + 32)g, with x average class weight in kg To be determined (if desirable/feasible)
	Pull on	To be determined (if desirable/feasible)
	Night	To be determined (if desirable/feasible)
	Swim	To be determined (if desirable/feasible)
Feminine care pads	Panty liners for blood collection and handling	To be determined (if desirable/feasible)
	Panty liners for blood and urine collection and handling	
	Pads categorization based on absorbency, presence/absence of wings?	To be determined (if desirable/feasible)
Tampons	Tampons categorization based on 6 classes of absorbency and presence/absence of the applicator?	To be determined (if desirable/feasible)
Breast pads	No categorization needed?	To be determined (if desirable/feasible)

Assessment and verification: The applicant shall send a sample of the product including a declaration of compliance with indicated the weight of the product.

Option 2: Setting environmental thresholds based on the GWP of the product

The environmental thresholds reported in Table 3 below shall be respected.

Table 2: Examples of potential requirements for some AHPs

Product		Maximal GWP
Baby diapers	Taped	(α x + β)kg_{CO2eq}, with x average class weight in kg To be determined (if desirable/feasible)
	Pull on	To be determined (if desirable/feasible)
	Night	To be determined (if desirable/feasible)
	Swim	To be determined (if desirable/feasible)
Feminine care pads	Panty liners for blood collection and handling	To be determined (if desirable/feasible)
	Panty liners for blood and urine collection and handling	
	Pads categorization based on absorbency, presence/absence of wings?	To be determined (if desirable/feasible)
Tampons	Tampons categorization based on 6 classes of absorbency and presence/absence of the applicator?	To be determined (if desirable/feasible)
Breast pads	No categorization needed?	To be determined (if desirable/feasible)

Assessment and verification: The applicant shall send a sample of the product including a declaration of compliance with indicated the calculated GWP value.

Option 3: No criteria on the use of materials

Rationale and technical feasibility:

Materials are the main contributors to the environmental impacts of AHPs. Three options are proposed to deal with the use of materials in the final product.

Option 1: Setting maximal weight thresholds

LCA evidence show that environmental impacts can be decreased through a reduction of the product weight (and thus with a lower use of materials). For some

types of AHPs a maximal weight threshold could be set in order to exclude the products on the market which use greater amounts of materials.

Baby diapers are used as an example to explain the approach to follow in order to implement this option. Information about the classification used by industry and the weight of hypothetical diapers has been gathered by the Commission. Four types of diapers have been identified:

- Taped diapers;
- Pull-on diapers;
- Swimming diapers;
- Night diapers.

Size classification used by some producers is reported below. Weight ranges have been highlighted in yellow when they differ from the most frequent values found within the same size.

TAPED DIAPERS	Size*									Source
	0	1	2	3	4	4+	5	5+	6	
DODOT ES		2-5	3-6	4-10	9-15	11-16	13-18	15-20	17-28	IPTS
DODOT PT		2-5		4-10	9-15		13-18			IPTS
HAPPY			3-6	4-10	8-15		12-25		>16	BE CB
HUGGIES			3-6							BE CB
KRUIDVAT	<2,5	2-5	3-6	4-9	7-18	9-20	11-25		15-30	BE CB
MOLTEX			3-6	4-9	7-18		11-25			BE CB
NATY		2-5	3-6	4-9	7-18		11-25			IPTS
PAMPERS BE		2-5	3-6	4-9 / 4-7	7-18	9-20	11-25	13-27		BE CB
PAMPERS ES		4- 6	5-8	7-13	10-17		>12		>16	BE CB
PAMPERS IT		2-5	3-6	4-9	7-18		11-25	13-27	>16 / 15-30	IPTS
PAMPERS UK	1-2.5	2-5	3-6	4-9	7-18	9-20	11-25	13-27	>16	IPTS
TESCO	1-2.5	2-5	3-6	4-9	7-18	9-20	11-25	14-30	14-30	IPTS
* For each size the corresponding children weight range is reported in kg (when no unit of measure is provided)										

PULL ON DIAPERS	Size*							Source
	3	4	4+	5	6	7	8	
CHEEKY BOT		7-18		9-20	11-25			IPTS
HAPPY		9-15		11-18	17-28			BE CB
KRUIDVAT			10-16	13-20	16-26			BE CB
NATY		7-18		12-18	>16			IPTS
PAMPERS BE		8-15		12-18	>16			BE CB
PAMPERS IT		8-15		12-18	>16			IPTS
PAMPERS UK		8-15		12-18	>16	17-29	29-39	IPTS
DODOT ES	4-10	9-15		13-18				IPTS
TESCO		7-18		12-18	>16			IPTS
* For each size the corresponding children weight range is reported in kg (when no unit of measure is provided)								

SWIMMING DIAPERS	Size*		Source
	4	4 +	
KRUIDVAT	6-12	10-18	BE CB

* For each size the corresponding children weight range is reported in kg (when no unit of measure is provided)

NIGHT DIAPERS	Size*		Source
	M	L	
KRUIDVAT	20-37	35-60	BE CB
HUGGIES	4-7 years	8-15 years	BE CB

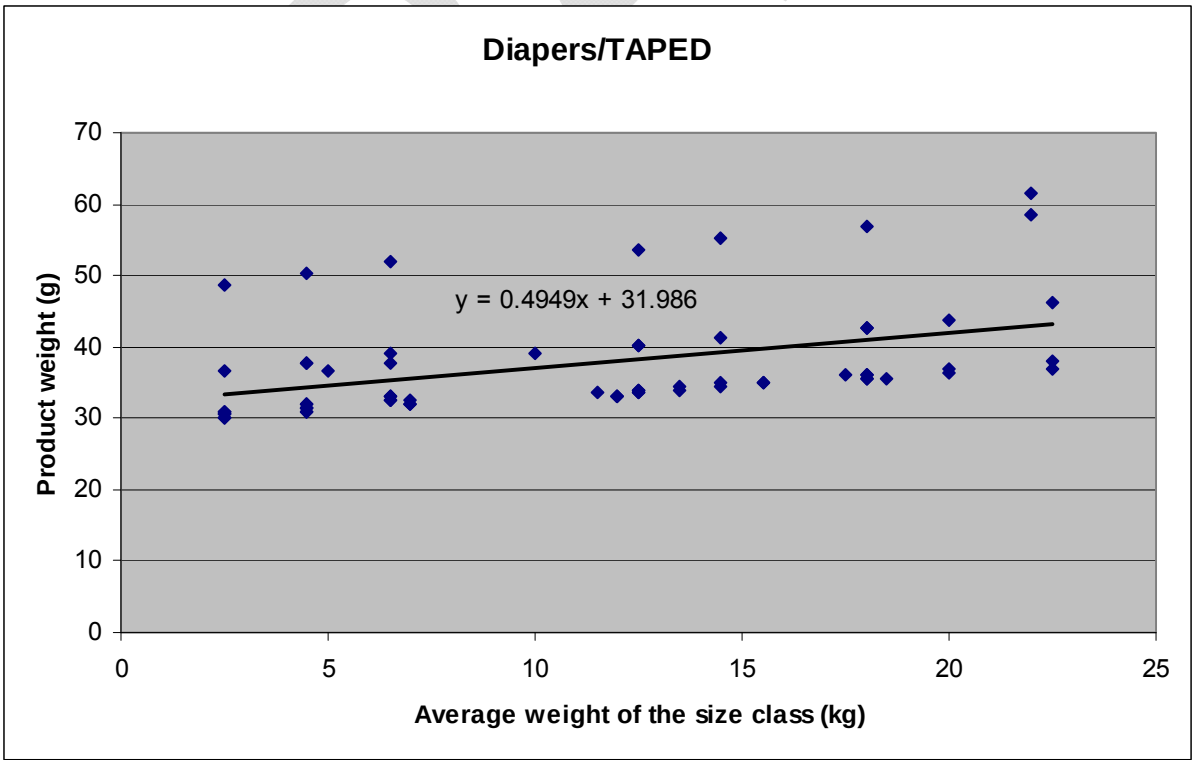
* For each size the corresponding children weight range is reported in kg (when no unit of measure is provided)

As it can be seen, classification is not harmonised between different producers, but it is not as much different as expected, with most of producers setting sizes based on the same weights of children.

However, what is difficult to receive from producers, directly or through their web-pages, is information about the weight of their products. An exercise was done to estimate the weight distribution of taped diapers under the following assumptions:

- 70% of products on the market weight between 30-38 grams and they are uniformly distributed in 8 classes of weight;
- For all classes, 20% of the products are 20% heavier;
- For all classes, 10% of the products are 60% heavier.

A distribution of product weights as a function of the average weight of the corresponding size classes has been plotted in a graph and a linear regression line has been calculated.



All the products above the linear regression line are considered to weight above the average and would be excluded from the basket of products eligible for the EU Ecolabel. Weight thresholds can be identified by entering the average weight of the product size class.

The same could be repeated for pull-on diapers, swimming diapers, night diapers and for other categories of AHPs included within the scope. However, this option is feasible only if industry will share information about classification, weight and composition of products on the EU-27 market. Alternatively, Competent Bodies should help the Commission to fill this gap of information for as many countries as possible.

Option 2: Setting environmental thresholds based on the GWP of the product

Starting from the information on classification, weight and composition of single products, it could be possible to calculate roughly the average impacts due to materials for some AHPs. In other words, products would be screened based on their environmental performance.

Focusing on Global Warming Potential (GWP) could be a way to simplify the problem at this stage of the process (this is the first attempt to develop environmental criteria and further refinements could be done in the next revisions). Estimating a linear regression line for GWP would be theoretically feasible since average composition and impact characterisation factors for different materials are available in the literature. However, this would be possible in practice only if data about product weights are available.

As shown for option 1, all the products which present indicators below the threshold (i.e. which perform better than the average) would be eligible for the EU Ecolabel.

Option 3: No criteria on the use of materials

A criterion on the use of materials will not be proposed if at the end of this stakeholder consultation it is found that the identification of functionally equivalent types of products is too complicated by the lack of harmonised classification and if data are missing in order to implement one of the options described above.

It has to be reported that industry is generally not supporting the presence of weight/composition constraints for (all or some) AHPs. This is because they consider that a full LCA approach should be the only way to handle this issue and that prescriptions on weight or composition could hinder innovation.

With the above mentioned difficulties, at this stage the best way to select the most environmentally friendly AHPs on the market would probably be not prescribing some requirements on the use of materials in the products and relying on the other criteria outlined in the technical report. However it has to be kept in mind that in this way no criteria would be set on the product design, which is the key factor influencing the environmental impacts of AHPs.

Area of discussion:

Three scenarios have been identified for dealing with the environmental impacts due to the use of materials in some AHPs:

- **Option 1: Setting maximal weight thresholds;**
- **Option 2: Setting environmental thresholds based on the GWP of the product;**
- **Option 3: No criteria on the use of materials.**

These three options will be discussed at the 2nd AHWG meeting.

Industry is generally not supporting the presence of weight/composition constraints for AHPs. Based on the lack of information, at the moment the most reasonable choice seems to be Option 3. Options 1 and 2 would require the **direct collection of pieces of information about classification, weight and composition** for all or some AHPs (the kind **support of industry and/or Competent Bodies** would be essential).

2.1) Sourcing

A minimum of X% pulp fibres (100?) shall be manufactured from wood that has been grown according to the principles of Sustainable Forestry Management as defined by the UN FAO. The remaining balance of pulp fibres shall be from pulp that is from legal forestry and plantations.

Assessment and verification:

The applicant shall provide valid, independently certified chain of custody certificates from his pulp supplier(s) demonstrating that pulp fibres have been grown according to Sustainable Forestry Management principles and/or are from legal sources. FSC, PEFC (and SFI?) shall be accepted as independent certification schemes. Due diligence processes shall be followed as specified in Regulation (EC)19/2010 in order to minimise the risk that timber has been illegal harvested. Valid FLEGT (Forest Law Enforcement, Governance and Trade) or CITES (Convention on International Trade in Endangered Species) licenses or third party certification shall be accepted as evidence of legal sourcing.

Rationale and technical feasibility:

The sustainable sourcing of raw materials would guarantee that wood sources are managed in an environmentally, socially, appropriate and economically viable manner. This would help exclude the following sources:

- Illegally harvested forests;
- Wood harvested in violation of traditional and civil rights;
- Wood harvested in forests in which High Conservation Values (areas particularly worth of protection) are threatened through management activities;
- Wood harvested from conversion of natural forests;
- Wood harvested from areas where genetically modified trees are planted.

The text under discussion in the on-going revision of the EU Ecolabel criteria for textiles is proposed. This represents the most recently updated criterion of the EU Ecolabel scheme on pulp sourcing.

It is to be discussed with stakeholders which amount of pulp fibres should be certified and which should come from legal sources. It is preliminarily proposed that **all the pulp is certified** according to the principle of Sustainable Forestry Management. Some stakeholders asked for the **inclusion of SFI** as accepted certification scheme. The Sustainable Forestry Initiative (SFI) is an independent North American forest certification program that was endorsed by the Programme for the Endorsement of Forest Certification schemes (PEFC).

Depending on the certification system, costs may vary. It can be expected that additional costs will occur. A detailed cost evaluation for the use of certified materials should be evaluated on a case-by-case basis.

2.2) Bleaching:

(a) The pulp used in the product shall not be bleached with the use chlorine gas.

(b) The AOX emissions from the production of each kind of pulp shall not exceed 0.170 (to be decreased?) kg/ADT.

Assessment and verification:

(a) The applicant should provide a declaration from the supplier that chlorine gas is not used.

(b) The applicant shall provide test reports using the test method AOX ISO 9562 or the equivalent EPA9562, accompanied by detailed calculations showing compliance with this criterion, together with related supporting documentation.

The supporting documentation shall include an indication of the measurement frequency.

AOX shall only be measured in processes where chlorine compounds are used for the bleaching of the pulp. AOX need not be measured in the effluent from non-integrated pulp production or in the effluents from pulp production without bleaching or where the bleaching is performed with chlorine-free substances.

Measurements shall be taken on unfiltered and unsettled samples either after treatment at the plant or after treatment by a public treatment plant.

The measurement period shall be 12 months of production. Measurements shall be taken on a weekly basis, from a representative composite sample (24 hours composite).In case of a new or re-built plant or a change of process at the production plant, measurements shall be done on a weekly basis for a total of 8 consecutive weeks following steady running of the plant. The measurement shall be representative of the respective campaign.

Rationale and technical feasibility:

During the production of fluff pulp, negative effects on the environment and on human heath, should be minimized. Until the early ‘90s, chlorine gas was used as the main component of the bleaching. At that time, it was discovered that significant amounts of the dioxin and furan chemical families were being discharged to watercourses. This led to the introduction of bleaching systems based on alternative chemicals, i.e. TCF and ECF bleaching processes (see Preliminary Report for further details). The TCF bleaching process has the advantage of repressing the production of chlorinated organic compounds. However, stakeholders involved in this project reported that ECF is a widely accepted technology and that almost all fluff pulp worldwide is ECF bleached. Thus, both the processes were considered to be supported. No additional costs are expected with respect to fulfilling this requirement being both the processes already deployed.

Chlorinated organic compounds are released into water as effluent from the bleaching process. AOX (adsorbable organic halide) is a surrogate measure of the amount of chlorinated organic compounds in pulp and paper effluent discharge. A

limit on AOX is proposed in alignment with the EU Ecolabel criteria for copy and graphic paper (Commission Decision 2011/332/EU)[5].

In comparison with the Commission Decision 2011/332/EU, the assessment and verification procedure has been slightly modified because reported by industry that

- Measurements should be taken from a **representative composite sample** (24 hours composite);
- **Equivalent test method** EPA 1650C should be accepted.
- It should be clarified what is included within the **definition of "new or re-built production plant"**.

Moreover, different groups of stakeholders asked to require **measurements on a weekly and on a monthly basis**, respectively. All these points must be clarified at the **2nd AHWG meeting.**

A quantification of costs and environmental benefits associated with this prescription is would be difficult.

2.3) Visual whitening and colouring agents

Visual whitening and colouring agents must not be intentionally added to the pulp. Fluorescent whitening agents are included within this group of substances.

Assessment and verification*:* The applicant should provide a declaration from the supplier that the requirements have been fulfilled.

Rationale and technical feasibility:

During the production of fluff pulp, negative effects on the environment and on human heath should be minimised. Visual whitening and colouring agents are proposed to be banned as they are not needed for this application. A similar prescription is present in the Nordic Swan criteria for sanitary products[6] and in the GPP guidelines developed by EDANA for AHPs (see Preliminary Report). No additional costs are expected.

The group of restricted substances already includes fluorescent whitening agents, which are difficult to biodegrade. However, it was asked to emphasize the restriction of this specific type of whitening agents.

2.4) Emission of COD and phosphorous (P) to water and sulphur (S) compounds and NOx to air from production

The emissions to air and/or water from the pulp production shall be expressed in terms of points (P_{COD}, P_S , P_{NOx} , P_P). Points are calculated by dividing actual emission by the reference values reported below.

Pulp grade	**Emissions (kg/ADT)**			
	COD_{ref}	**S_{ref}**	**NOx_{refe}**	**P_{ref}**

Bleached chemical pulp (others than sulphite)	18.0	0.6	1.6	0.045*
Bleached chemical pulp (sulphite)	25.0	0.6	1.6	0.045
CTMP	15.0	0.2	0.3	0.005
TMP/groundwood pulp	3.0	0.2	0.3	0.01

* The emission limit value can be set up to 0.05 where it can be demonstrated that the higher level of P emissions is due to P naturally contained in wood fibres and water (wording to be clarified?).

- None of the individual points P_{COD}, P_S, P_{NOx}, P_P shall exceed 1.5.
- The total number of points (P total = P_{COD} + P_S + P_{NOx} + P_P) shall not exceed 4.0.

Where different types of pulp are used, measured emissions and reference value shall be weighted according to the relative weight of each pulp type.

In case of a co-generation of heat and electricity at the same plant, the emissions of S and NOx resulting from electricity generation can be subtracted from the total amount.

The following equation can be used to calculate the proportion of the emissions resulting from electricity generation:

2 × (MWh(electricity)) / [2 × MWh(electricity) + MWh(heat)]

The electricity in this calculation is the electricity produced at the co-generation plant.

The heat in this calculation is the net heat value input that is produced at the co-generation plant and that is actually delivered to the pulp production process (wording to be clarified?).

Assessment and verification: The applicant shall provide detailed calculations showing compliance with this criterion, together with related supporting documentation which shall include test reports using the following test methods: COD: ISO 6060, EPA SM 5220D or HACH 8000;

NOx: ISO 11564 or EPA 7E;

S(oxid.): EPA 8;

S(red.): EPA 8 or EPA 16A;

S content in oil: ISO 8754 or EPA 8;

S content in coal: ISO 351 or EPA 8;

P: ISO 6878, SM4500, APAT IRSA CNR 4110 or Dr Lange LCK 349.

The supporting documentation shall include an indication of the measurement frequency and the calculation of the points for COD, S, NOx and P. It shall include all emissions of S and NOx which occur during the production of pulp, including steam generated outside the production site, except those emissions related to the production of electricity.

Measurements shall include recovery boilers, lime kilns, steam boilers and destructor furnaces for strong smelling gases. Diffuse emissions shall be taken into account.

Reported emission values for S to air shall include both oxidised and reduced S

emissions (dimethyl sulphide, methyl mercaptan, hydrogen sulphide and the like). The S emissions related to the heat energy generation from oil, coal and other external fuels with known S content may be calculated instead of measured, and shall be taken into account.

Measurements of emissions to water shall be taken on unfiltered and unsettled samples either after treatment at the plant or after treatment by a public treatment plant.

The measurement period shall be 12 months of production. Measurements for COD and P shall be taken on a weekly basis, measurements for S and NO_x on yearly basis.

In case of a new or re-built plant or a change of process at the production plant, measurements shall be done on a weekly basis for a total of 8 consecutive weeks following steady running of the plant. The measurement shall be representative of the respective campaign.

Rationale and technical feasibility:

During the production of fluff pulp, negative effects on the environment and on human heath should be minimised. Requirements for emissions of COD and P to water and for emissions of S and NOx to air from fluff pulp production are prescribed in the EU Ecolabel criteria for copy and graphic paper (Commission Decision 2011/332/EU)[5]. These are reported here as basis of discussion.

In comparison with the Commission Decision 2011/332/EU, the assessment and verification procedure has been slightly modified because reported by industry that:

- **Measurements for S and NO_x** should be taken on a yearly basis;
- **Equivalent test methods** should be accepted.
- It should be clarified what is included within the **definition of "new or re-built production plant"**.

Some change in wording may be needed also for **clarifying when limit value for P** emissions can be increased and **what the "heat" in the formula represents**. All these points must be clarified at the **2nd AHWG meeting.**

A quantification of costs and environmental benefits associated with this prescription would be difficult.

2.5) Emissions of CO_2 from production

CO_2 emissions from non-renewable energy sources shall not exceed 1100 kg per tonne of pulp produced.

Reference values according to the following table shall be taken into account:

Fuel	CO_2 fossil emissions (g $CO_{2fossil}$/MJ)
Coal	95

Crude oil	73
Fuel oil 1	74
Fuel oil 2-5	77
LPG	69
Natural Gas	56
Grid Electricity	400

Assessment and verification: The applicant shall provide detailed calculations showing compliance with this criterion, together with related supporting documentation.

The applicant shall provide data on the air emissions of carbon dioxide. This shall include all sources of non-renewable fuels during the production of pulp, including the emissions from the production of electricity (whether on-site or off-site).

The measurement period shall be 12 months of production. Measurements shall be done on a yearly basis.

In case of a new or re-built plant or a change of process at the production plant, measurements shall be done on a weekly basis for a total of 8 consecutive weeks following steady running of the plant. The measurement shall be representative of the respective campaign.

The amount of energy from renewable sources purchased and used for the production processes will not be considered in the calculation of the CO_2 emissions: appropriate documentation that this kind of energy are actually used at the mill or are externally purchased shall be provided by the applicant.

Rationale and technical feasibility:

During the production of fluff pulp, negative effects on the environment and on human heath should be minimised. Requirements for emissions of CO2 are prescribed in the EU Ecolabel criteria for copy and graphic paper (Commission Decision 2011/332/EU)[5] These are preliminarily reported here as basis of discussion.

In comparison with the Commission Decision 2011/332/EU, the assessment and verification procedure has been slightly modified because reported by industry that **measurements should be taken on a yearly basis**. A better definition was moreover needed to clarify what is included within the **definition of "new or re-built production plant"**. These points must be clarified at the **2nd AHWG meeting.**

A quantification of costs and environmental benefits associated with this prescription is would be difficult.

2.6) Energy use during the production

Electricity

The electricity consumption related to the pulp production shall be expressed in terms of points (P_E) as detailed below.

For each pulp i used, the related electricity consumption ($E_{pulp,i}$ expressed in kWh/ADT) shall be calculated as follows:

$E_{pulp,i}$ = *Purchased electricity (+ Internally produced electricity – sold electricity)*

Points shall be calculated by dividing actual consumption figures by the reference values reported below.

Where different types of pulp are used, consumption figures and reference value shall be weighted according to the relative weight of each pulp type.

The number of points P_E shall be less than or equal to 1.5.

Fuel (heat)

The fuel consumption related to the pulp production shall be expressed in terms of points (P_F) as detailed below.

For each pulp i used, the related fuel consumption ($F_{pulp,i}$ expressed in kWh/ADT) shall be calculated as follows

$F_{pulp,i}$ = *Purchased fuel (+ Internally produced fuel – sold fuel –* 1.25 ***(or 1.4-1.5? to be discussed at the AHWG meeting)*** × *internally produced electricity)*

$F_{pulp,i}$ (and its contribution to $P_{F,\ pulp}$) does not need to be calculated for mechanical pulp unless it is marketed as air dried mechanical pulp containing at least 90% dry matter.

The amount of fuel used to produce the sold heat shall be added to the term 'sold fuel' in the equation above.

Points shall be calculated by dividing actual consumption figures by the reference values reported below.

Where different types of pulp are used, consumption figures and reference value shall be weighted according to the relative weight of each pulp type.

The number of points P_F shall be less than or equal to 1.5.

Reference values according to the following table shall be taken into account.

Pulp grade	**Fuel (kWh/ADT)**	**Electricity (kWh/ADT)**
Chemical pulp	4000*	800
Mechanical pulp	900**	1900
CTMP	1000	2000

*: For air dry market pulp (admp) containing at least 90% dry matter, this value may be upgraded by 25% for the drying energy

** This value is only applicable for admp

Assessment and verification: The applicant shall provide detailed calculations showing compliance with this criterion, together with all related supporting documentation. Reported details shall therefore include the total electricity and fuel consumption.

The applicant shall calculate all energy inputs, divided into heat/fuels and electricity used during the production of pulp and paper, including the energy used in the de-inking of waste papers for the production of recycled paper. Energy used in the transport of raw materials, as well as conversion and packaging, is not included in the energy consumption calculations.

Total heat energy includes all purchased fuels. It also includes heat energy recovered by incinerating liquors and wastes from on-site processes (e.g. wood waste, sawdust, liquors, waste paper, paper broke), as well as heat recovered from the internal generation of electricity — however, the applicant need only count 80% of the heat energy from such sources when calculating the total heat energy.

Electric energy means net imported electricity coming from the grid and internal generation of electricity measured as electric power. Electricity used for wastewater treatment need not be included.

Where steam is generated using electricity as the heat source, the heat value of the steam shall be calculated, then divided by 0.8 and added to the total fuel consumption.

In case of integrated mills, due to the difficulties in getting separate fuel (heat) figures for pulp and paper, if only a combined figure for pulp and paper production is available, the fuel (heat) values for pulp(s) shall be set to zero and the figure for the paper mill shall include both pulp and paper production.

Rationale and technical feasibility:

During the production of fluff pulp, negative effects on the environment and on human heath should be minimised. Requirements for energy consumption are prescribed in the EU Ecolabel criteria for copying and graphic paper (Commision Decision 2011/332/EU)[5]. These are reported here as basis for discussion. According to some feedback received from stakeholders, the **factor used to deduct the internally produced electricity** from the fuel consumption in the energy calculations should be increased from 1.25 to 1.4-1.5 in order to take into account more realistic boiler efficiencies. This point must be clarified at the **2nd AHWG meeting.**

A quantification of costs and environmental benefits associated with this prescription would be difficult.

2.7) Industrial best practices

The following measures shall be implemented in the pulp production plant order to limit emissions to water and air, consumption of resources and production of waste streams

Environmental area	Measures
Waste management	1. Implementing an integrated waste management plan to optimize prevention, reuse, recycling, recovery, and final disposal of waste according to waste hierarchy. 2. Separating different waste fractions to allow reuse or recirculation of the single fractions. 3. Recycling fibres, wherever possible

Assessment and verification: The applicant should provide a declaration from the supplier that the requirements have been fulfilled.

Rationale and technical feasibility:

A series of measures to reduce the environmental impacts from the production of fluff pulp was preliminarily proposed based on the critical screening of the Best Available Techniques (BAT) Reference Document for the Production of Pulp, Paper and Board (Draft May 2012)[1].

However, general feedback received by stakeholders is that the only requirements that could make sense are the one on waste management. The other requirements, indeed, are considered unnecessary because prescribing the implementation of technical solutions with which to achieve objectives already set within the previous sub-criteria.

Implementing waste management strategies can save resources and produce monetary benefits. Although at first the implementation of a management system will probably be associated with additional costs (certification fee, labour cost, etc.), it can be expected that cost saving can be achieved from the moment the measure is installed. Environmental and economic benefits could be achieved through reusing, recycling or down-cycling materials. Detailed information on cost benefits are difficult to be estimated.

Area of discussion:

The following points must be clarified:

2.1) Sourcing

- Which amount of pulp should be certified according to the principle of Sustainable Forestry Management?
- Should SFI be accepted as certification scheme?

2.2) Bleaching:

- Which limit value should be set for AOX emissions?
- Should we refer to OX emissions as for criteria on man-made cellulosic fibres?
- How to improve the assessment and verification procedure? (e.g. test methods, definition of "new or re-built production plant", frequency of measurements)

2.4) Emission of COD and phosphorous (P) to water and sulphur (S) compounds and NOx to air from production

- How to improve the assessment and verification procedure? (e.g. test methods, definition of "new or re-built production plant", frequency of measurements)
- How to improve wording for clarifying when a) limit value for P emissions can be increased and b) what the "heat" in the equation can be used to calculate the proportion of the emissions resulting from electricity generation?

2.5) Emissions of CO_2 from production

- How to improve the assessment and verification procedure? (e.g. definition of "new or re-built production plant", frequency of measurements)

2.6) Energy use during the production

- Should the factor used to deduct the internally produced electricity from the fuel consumption be increased from 1.25 to 1.4-1.5? Which value should be chosen?

Criterion 3: Man-made cellulose fibres (including viscose, modal, lyocell, cupro, triacetate)

3.1) Sourcing

(a) A minimum of 25% pulp fibres shall be manufactured from wood that has been grown according to the principles of Sustainable Forestry Management as defined by the UN FAO. The remaining balance of pulp fibres shall be from pulp that is from legal forestry and plantations.

(b) Dissolving pulp produced from cotton linters shall meet with the requirements 4.1 and 4.2 for cotton (sourcing and traceability) with the exception that 25% of cotton should comply with the IPM production standard if selected and 10% should comply with the organic production standard if selected.

Assessment and verification:

(a) The applicant shall provide valid, independently certified chain of custody certificates from his pulp supplier(s) demonstrating that pulp fibres have been grown according to Sustainable Forestry Management principles and/or are from legal sources. FSC and PEFC shall be accepted as independent certification schemes. Due diligence processes shall be followed as specified in Regulation (EC)19/2010 in order to minimise the risk that timber has been illegal harvested. Valid FLEGT (Forest Law Enforcement, Governance and Trade) or CITES (Convention on International Trade in Endangered Species) licenses or third party certification shall be accepted as evidence of legal sourcing.

(b) The application shall provide evidence of compliance according to criteria 4.1 and 4.2 for cotton.

Rationale and technical feasibility:

See criterion 2.1 for fluff pulp and criteria 4.1 and 4.2 for cotton. Percentage values have been set as discussed in the on-going revision of the EU Ecolabel criteria for textiles and could be changed accordingly.

In comparison with criterion 2.1 for fluff pulp, it has **not** been **requested** for man-made cellulose fibres **to broaden the list of accepted schemes to SFI**. This point must be clarified at the **2nd AHWG meeting**.

3.2) Bleaching

(a) The pulp used to manufacture fibres shall not be bleached with the use of chlorine gas.

(b) The resulting level of halogenated compounds (OX) in the fibres shall not exceed 0.150 kg/ADT

Assessment and verification:

(a) The applicant should provide a declaration from the supplier that chlorine gas is not used.

(b) The applicant shall provide a test report, using the following test method: ISO 11480.1997 (controlled combustion and microcoulometry).

Rationale and technical feasibility:

(a) See criterion 2.2(a) for fluff pulp

(b) As discussed in the on-going revision of the EU Ecolabel criteria for textiles. Changes could be applied accordingly.

3.3) Visual whitening and colouring agents

Visual whitening and colouring agents must not be intentionally added to the pulp. Fluorescent whitening agents are included within this group of substances.

Assessment and verification: The applicant should provide a declaration from the supplier that the requirements have been fulfilled.

Rationale and technical feasibility:

See criterion 2.3 for fluff pulp

3.4) Production of fibres

(a) The following limits shall be respected in the viscose and in the modal fibres production process:

Fibre type	**Sulphur emissions to air Limit value (g/kg)**	**Zinc emissions to water Limit value (g/kg)**
Staple fibre	30	0.30
Filament fibre - Batch washing - Integrated washing	 60 170	 0.16 0.16
Note: Limit values expressed as annual average		

(b) For cupro fibres, the copper content of the effluent water leaving the site, expressed as an annual average, shall not exceed 0.10 ppm.

(c) More than 50% of pulp used to manufacture fibres shall be obtained from dissolving pulp mills that recover value from their spent process liquor either by 1) generating on-site electricity and steam and/or 2) by manufacturing chemical co-products.

Assessment and verification:

(a), (b) The applicant shall provide detailed documentation and/or test reports showing compliance with this criterion, together with a declaration of compliance.

(c) The applicant shall provide a list of pulp suppliers used to make the fibres and the

proportion they supply. Supporting documentation and evidence shall be provided that the required proportion of suppliers has energy generating equipment and/or co-product recovery and manufacturing systems installed at production sites.

Rationale and technical feasibility:

(a) (b) During the production of viscose, negative effects on the environment and on health due to resource consumption and emissions should be minimized. Limit values for production of viscose staple fibres (and filaments) are suggested in the BREF documents on polymers[2]. However, in accordance with the ongoing revision of the EU Ecolabel criteria for textiles, where discussion with producer of man-made cellulose fibres already took place, values limits have been proposed for:

- Emissions of sulphur compounds to air from the viscose and from the modal fibres production process
- Emissions of zinc to water from the viscose and from the modal fibres production process
- Emissions of copper to water from the cupro fibres production process

Requirements could be changed depending on the final results of the revision of the EU Ecolabel criteria for textiles.

Depending on the measures that have to be taken to fulfil the requirements, costs may vary. For suppliers already producing with high technological standards, additional costs should be marginal.

c) Negative effects on the environment due to resource consumption should be minimized. Environmental benefits and potential cost saving should be achieved by using pulp obtained from dissolving pulp mills that recover value from their spent process liquor (e.g. by generating on-site electricity and steam and/or by manufacturing chemical co-products).

3.5) Industrial best practices

The following measures shall be implemented in the pulp production plant order to limit emissions to water and air, consumption of resources and production of waste streams

Environmental area	Measures
Water consumption and wastewater emissions	~~1. Removal of Na_2SO_4 from wastewater (spinning baths, in which the viscose solution is pressed through spinnerets) for coagulation of the fibres~~ ~~2. Reduction of Zinc from wastewaters by alkaline precipitation followed by sulphide precipitation.~~ ~~3. Use of anaerobic sulphate reduction techniques for sensitive waterbodies. If further desulphurization is necessary, anaerobic reduction to H_2S must be carried out.~~

	4. Use of separate effluent collection systems for – Contaminated process effluent water – Potentially contaminated water from leaks and other sources, including cooling water and surface runoff from process plant areas, etc. – Uncontaminated water
Waste management	1. Use of fluidized bed incinerators to burn non-hazardous wastes with subsequent heat and energy recovery 2. Recycling of fibres, wherever possible
Air emissions	1. Condensation of exhaust air from spinning streets to recover CS_2 and backcycling into the process. (different technologies available). 2. Operation of spinning frames in houses in order to minimise CS_2 emissions, (spinning frames are the sources of CS_2 emissions). Housings have to be equipped with leak-proof sliding windows and have suction systems inside where excess CS_2 is purged to a recovery facility. 3. Application of exhaust air desulphurization processes based on catalytic oxidation with H_2SO_4 production.

Assessment and verification: The applicant should provide a declaration from the supplier that the requirements have been fulfilled..

Rationale and technical feasibility:

A series of measures is preliminarily proposed to reduce the environmental impacts from the production of fluff pulp. Measures have been identified through the critical screening of the Best Available Techniques (BAT) Reference Documents for Polymers[2] and for Textiles[3].

The list of requirements proposed for discussion does not include the ones prescribing the implementation of technical solutions with which to achieve objectives already set within the previous sub-criteria.

Negative effects on the environment due to emissions to water and air should be minimized. The reduction of sulphuric emissions from industry can lead, for instance, to a decrease of the acidification potential Depending on the measures taken, the measures can either be accompanied by cost savings (e.g. reduced water use) or increases in costs (e.g. installation of additional cleaning techniques). Costs may vary depending on their technological status.

Implementing waste management strategies can save resources and produce monetary benefits. Although at first the implementation of a management system will

probably be associated with additional costs (certification fee, labour cost etc.), it can be expected that cost saving can be achieved from the moment the measure is installed. Environmental and economic benefits could be achieved through reusing, recycling or down-cycling materials. Detailed information on cost benefits are difficult to be estimated. Hazardous wastes can be properly treated through well-monitored incineration.

At the **2nd AHWG meeting** it will be discussed with stakeholders which measures should be kept in the **final criterion proposal**.

Area of discussion:

The following points must be clarified:

3.1) Sourcing

- Should the list of accepted certification schemes include even SFI?

3.5) Industrial best practices

- Which measures should be included in the final criterion proposal?

4.1) Sourcing

Cotton and other natural cellulosic seed fibres (hereinafter referred to as cotton) shall be grown according to one of the following two production standards and must meet the common content claim requirements.

Option 1: IPM

50% cotton (to increase this threshold?) used shall be grown according to Integrated Pest Management (IPM) principles as defined by the UN FAO's IPM programme. All the cotton shall be grown without the use of any of the following substances:

Alachlor, aldicarb, aldrin, campheclor (toxaphene), captafol, chlordane, 2,4,5-T, chlordimeform, chlorobenzilate, cypermethrin, DDT, dieldrin, dinoseb and its salts, endosulfan, endrin, glyphosulfate, heptachlor, hexachlorobenzene, hexachlorocyclohexane (total isomers), methamidophos, methyl-o-dematon, methylparathion, monocrotophos, parathion, phosphamidon, pentachlorophenol, thiofanex, triafanex, triazophos.

Cotton shall not contain more than 0.5 ppm in total (sensitivity of the test method permitting) of the substances listed above. Cotton is not required to be tested where it has been certified by a suitable IPM scheme that prohibits the use of the listed substances.

Option 2: Organic

A minimum of 25% (to increase this threshold to 90%?) of cotton shall be grown according to the requirements laid down in Regulation (EC) No 834/2007 or the US National Organic Programme (NOP). The cotton content may include organically grown cotton and transitional organic cotton.. The remaining balance of the cotton is excluded from pesticide testing.

Assessment and verification:

Option 1: The applicant shall provide evidence that the cotton is grown by farmers that participate either in Government IPM programmes or third party certified IPM schemes. Government programmes include the UN FAO IPM programme, the USDA IPM programme and other programmes to be specified. Certification to the following IPM schemes will be accepted – the Better Cotton Initiative (BCI), Cotton Made in Africa and the Australian Better Management Programme (BMP).

A test report should be provided demonstrating that the listed substances have not been used. The following test methods shall be used, as appropriate:

- US EPA 8081 A (organo-chlorine pesticides, with ultrasonic or Soxhlet extraction and apolar solvents (iso-octane or hexane)),

- 8151 A (chlorinated herbicides, using methanol),

- 8141 A (organophosphorus compounds),

- 8270 C (semi-volatile organic compounds).

Tests should be made on raw cotton, before it comes through any wet treatment, for each lot of cotton or composite samples of 5% of the bales from each country of origin if more than two lots of cotton per year are received.
Declarations of non-use compiled from farmer producer groups will be accepted where they are verified by annual site visits. The following IPM certification schemes will be accepted - BCI, Cotton Made in Africa and Fair Trade – together with IPM schemes which restrict use of the pesticides list in their criteria.

Option 2: Organic content should be certified by an independent organisation to have been produced in conformity with the production and inspection requirements laid down in Regulation 834/2007/EC or the US National Organic Programme (NOP). Verification either on an annual basis for a proportion of the cotton purchased or of the blending of cotton at the spinning stage shall be accepted.

4.2) Traceability

It shall be possible to trace the IPM or organic cotton used to manufacture an Ecolabelled product from farmer and producer groups to, as a minimum, greige fabric production. This shall be ensured for all cotton purchased for use in Ecolabelled products. Documentary evidence shall be provided that assures the integrity of the cotton content claim.

Assessment and verification: Transaction records and/or invoices shall be provided that document the quantity of cotton purchased on an annual basis from farmer or producer groups up until greige fabric production before dyeing, printing and finishing. Documentary evidence shall reference the Control Body or certifier of the cotton. Cotton certified to the GOTS, Fair Trade, OE Blended and OE 100 standards, as well as any other equivalent content claim standards shall be accepted as complying with these requirements.

Rationale and technical feasibility:

The use of organic and responsibly produced cotton would produce benefit to farmers, retailers and consumers all along the value chain.

The environmental benefits of organic cotton relate primarily to the avoidance of pesticide use and the avoidance of artificial fertilisers. Its cultivation is one of the most intensive users of agrochemicals worldwide. Artificial fertilisers and pesticides are energy and resource intensive to produce, contribute to the degradation of the soil structure and health, and also contribute to nitrous oxide emissions from soil which means that conventionally grown cotton can also contribute more to the greenhouse effect than organic cotton. In some of areas of cultivation cotton also requires substantial irrigation water, but organic cotton does not necessarily address this issue.

The use of organic cotton results thus in a reduction in the emission of greenhouse gases but the major environmental benefit is the avoidance of the use of pesticides which benefits both the environment and the health of farmers and local communities that do not have to handle or be exposed to pesticides which, according to studies by the UN FAO, in some cotton growing regions may be applied in large quantities

without sufficient protection and precision. Pesticides used may include substances listed under Categories IA/B, II and III of the WHO pesticide hazard classifications and substances listed under the Rotterdam Convention on the Prior Informed Consent (PIC) Procedure for Certain Hazardous Chemicals and Pesticides in International Trade.

The definition of measures for the sustainable sourcing of cotton should be aligned as much as possible with the ongoing revision of the Commission Decision 2009/567/EC, establishing ecological criteria for the award of the Community eco-label for textile products[7]. The most recently updated requirements proposed for cotton are reported here.

Some stakeholders suggested to set the **minimal content of organic cotton** to 90%, others to **test the absence of pesticides** for cotton that is not certified as organic. The **current proposal** is to prescribe that at least **25% by weight of the cotton is organic OR** to verify the implementation of **IPM programmes for 50% of the cotton and the absence of restricted pesticides for all the cotton** used in the product.

It is **to be discussed** with stakeholders at the 2nd AHWG meeting:

1) If **options 1 and 2** should be applicable **in combination or exclusively;**

2) Which **weight thresholds** should be set for both options.

It can be expected that additional costs will occur. A detailed evaluation of the costs associated with the use of certified materials should be evaluated on a case-by-case basis.

4.3) Bleaching

Cotton shall not be bleached with the use of chlorine gas.

Assessment and verification: The applicant should provide a declaration from the supplier that chlorine gas is not used.

Rationale and technical feasibility:

Reduction of the use of chlorine can have positive effects on the environment (e.g. prevention of dioxine formation and other highly carcinogenic pollutants). Costs of different bleaching methods vary but further information was not gathered. The possibility to limit the emission of AOX could be even explored.

4.4) Visual whitening and colouring agents

Visual whitening and colouring agents must not be intentionally added to the pulp. Fluorescent whitening agents are included within this group of substances.

Assessment and verification: The applicant should provide a declaration from the supplier that the requirements have been fulfilled

Rationale and technical feasibility:

During the production of cotton, negative effects on the environment and on human heath should be minimised. Visual whitening and colouring agents are proposed to be banned because not needed for this application.

4.5). Industrial best practices

The following measures shall be implemented in the pulp production plant order to limit emissions to water and air, consumption of resources and production of waste streams

Environmental area	Measures
Water consumption and wastewater emissions	1. Implementing water-saving solutions such as monitoring of water flow in a facility, adjustment of processes in pretreatment to quality requirements in downstream processes and re-use of water. 2. Implementing a monitoring plan in order to avoid/ minimize any kind of surplus of applied chemicals and auxiliaries (e.g. by automated dosing and dispensing of chemicals) and to minimize consumption of complexing agents in hydrogen peroxide bleaching. ~~3.~~ Implementing multi-step waste water treatment plants to decrease the emission of AOX.
Waste management	4. Implementing an integrated waste management plan to optimize prevention, reuse, recycling, recovery, and final disposal of waste according to waste hierarchy. 5. Separating different waste fractions to allow reuse or recirculation of the single fractions.
Air emissions	6. Proving that in the selection of auxiliaries and chemicals within the facility higher preferences are given to products with a low volatility and low smell intensity.
Energy management	7. Implementing measure to optimize energy efficiency (e.g. via segregation of hot and cold waste water streams prior to heat recovery and recovery of heat from the hot stream) and to reduce the consumption of fossil fuels. 8. Applying on-site generation of electricity and heat in combined heat and power plants (CHP), which can save up to 30% of energy when compared to conventional technologies.

Assessment and verification: The applicant should provide a declaration from the supplier that the requirements have been fulfilled.

Rationale and technical feasibility:

A series of measures is preliminarily proposed to reduce the environmental impacts from the production of fluff pulp. Measures have been identified through the critical screening of the Best Available Techniques (BAT) Reference Documents for Textiles[3]. It would be important to know from stakeholders which measures would be worthy of consideration for the final criterion proposal.

The list of requirements proposed for discussion does not include the ones prescribing the implementation of technical solutions with which to achieve objectives already set within the previous sub-criteria.

Negative effects on the environment due to water use and emissions to water and air should be minimized. Depending on the measures taken, the measures can either be accompanied by cost savings (e.g. reduced water use and reduction of chemicals and other auxiliaries) or increases in costs (e.g. installation of additional cleaning techniques for AOX removal). Costs may vary.depending on their technological status.

Implementing energy and waste management strategies can save resources and produce monetary benefits. Although at first the implementation of a management system will probably be associated with additional costs (certification fee, labour cost etc.), it can be expected that cost saving can be achieved from the moment the measure is installed. Savings strongly depend on the efficiency of the processes before the implementation of new systems. Environmental and economic benefits could be even achieved through reusing, recycling or down-cycling materials. Detailed information on cost benefits are difficult to be estimated. Hazardous wastes can be properly treated through well-monitored incineration.

At the **2nd AHWG meeting** it will be discussed with stakeholders which measures should be kept in the **final criterion proposal**.

Area of discussion:

The following points must be clarified:

4.1) Sourcing

- Should options 1 and 2 be applicable in combination (1 AND 2) or exclusively (1 OR 2)?
- Which weight thresholds should be set for both options?

4.5) Industrial best practices

- Which measures should be included in the final criterion proposal?

Criterion 5: Polymers

5.1) Sourcing*

An X% by weight of the polymers shall come from renewable feedstock*.

Assessment and verification: See note*

* Note: This criterion will be proposed only if practical assessment and verification schemes and/or procedures are found which can be used to provide evidence that specific renewable-based polymers are functionally equivalent to petroleum-based materials and lead to an overall better environmental performance. A **final decision** will be taken **at the 2nd AHWG group meeting**.

Rationale and technical feasibility:

As described in the Preliminary report, there is an overall trend towards the introduction of polymers based on renewables (also named bio-polymers or bio-plastic in this context). However, there is some concern about the possibility of introducing a requirement on renewable materials within the EU Ecolabel because finding a practical procedure for assessing and verifying their sustainability seems difficult at the moment.

In principle, the use of renewable materials is considered to encourage conservation of resources. Some bio-polymers could present potential environmental advantages, such as the saving of fossil resources and the biological degradation at the end-of-life. However, environmental trade-offs can be associated to the use of plastics from renewable materials, such as the increased demand of land for the production of biomass. From a theoretical point of view, the promotion of bio-polymers should be supported only if the environmental lifecycle performance of these materials is evaluated in comparison with conventional, petroleum-based polymers.

All in all, spatial and technical differences between different bio-plastic production chains can result in a significantly complex range of environmental performances. For instance, it could be that a specific bio-polymer consumes more energy and produces more greenhouse-gases emissions than its fossil-based alternative. Moreover, it should be noted that biodegradability of polymers becomes a concrete benefit after use only if material does not go into landfills or incineration plants, which is the conventional disposal scenario for AHPs. Another important point of discussion would be the apparently higher cost of most bio-based materials.

Interaction with stakeholders and further investigation is currently on-going **to understand the existence of any approaches to support the sustainability** and the consequent promotion **of renewable polymers.** A **final decision** will be taken **at the 2nd AHWG group meeting**.

5.2) Heavy metals / organostannic compounds

Contents of lead, cadmium, mercury, hexavalent chrome and attendant impurities as well as organostannic compounds must be lower than 0.1% of the mass of the

respective material (e.g. plastic) in the product.

Assessment and verification: The applicant should provide a declaration from the supplier that the requirements have been fulfilled.

Rationale and technical feasibility:

Heavy metals such as the ones mentioned in the measure as well as organostannic compounds are hazardous to health and environment. All those substances mentioned are undesired additives due to their environmental and health risks. Heavy metals are very recalcitrant in the environment which increases the risk of damage when discharged in the environment. The requirement is meant to prevent them recurring as additives in plastics and polymers.

Limitation in the content of heavy metals/organostannic compounds was suggested in the EDANA's GPP guidelines (see Preliminary Report). However, it has been reported that these criteria may not be **relevant** for the plastic materials used in AHPs. Additional evidence and comments would be necessary to **confirm** this point and eventually find **alternative criteria** for plastics.

A change of costs (either increasing or decreasing) can be caused by a change to materials not containing any of the mentioned substances any more.

5.3) Super Absorbent Polymers

(a) Super Absorbent Polymers may contain a maximum of 400 ppm residual monomers (total of unreacted acrylic acid and cross linkers).

(b) SAP may as a maximum contain 5% (weight/weight) of water-soluble extracts (i.e. monomers and oligomers of acrylic acid with lower molecular weight than SAP according to ISO 17190 – 10:2001)

(c) Acryl amide shall not be intentionally used.

Assessment and verification:

(a) The applicant should provide a declaration from the supplier documenting the composition of the superabsorbent polymer(s) used in the product. This must be done by means of a product safety data sheet which specifies the full name and CAS number and the residual monomers contained in the product classified in accordance with the above requirements and the quantities thereof. The methods used for the analyses must be described and the names of the laboratories used for analysis must be stated. The recommended test methods are WSP 210.2 (05), ERT 410.2 (02)/IST 210.2(02), ISO 17190 – 2:2001[8]

(b) The applicant should provide a declaration from the supplier specifying the quantity of water-soluble extracts in the super-absorbent polymer(s). The methods of analysed used must be described and the analysis laboratories must be stated. The recommended test method is WSP 270.2 (05), ERT 470.2 (02)/IST 270.2(02), ISO 17190 – 10:2001[8].

(c) The applicant should provide a declaration of non use.

Rationale and technical feasibility:

Concern on Super Absorbent Polymers is given by the release of residual monomers and by water-soluble extracts. In accordance with the Nordic Swan criteria for Sanitary Products, two prescriptions are proposed for residual monomers and water-soluble extracts.[6] These substances are even subject to the requirement of Article 6(6) of the Regulation (EC) No 66/2010. However, SAP industry reported that:

1. These prescriptions should be removed since there is **no evidence of risks** due to **residual monomers and water-soluble extracts**;

2. **Inorganic salts** are **not relevant** and **do not count as extractable** and reference should be made to the **standard ISO 17190 – 10:2001**.

In addition to this, it was recommended to ban explicitly the use acrylic amide (CAS number 79-06-1) that should carry the following hazard statements: H301 (Toxic if swallowed); H312 (Harmful in contact with skin); H332 (Harmful if inhaled); H315 (Causes skin irritation); H319 (Causes serious eye irritation); H317 (May cause an allergic skin reaction); H361 (Suspected of damaging fertility or the unborn child); H340 (May cause genetic defects); H350 (May cause cancer); H372 (Causes damage to organs through prolonged or repeated exposure). However, the use of this substance will be restricted also through Criterion 7 on Excluded or limited substances or mixtures.

These issues are planned to be discussed in Brussels at the **2nd AHWG meeting**.

5.4) Industrial best practices

The following measures shall be implemented in the pulp production plant order to limit emissions to water and air, consumption of resources and production of waste streams

Environmental area	Measures
Water consumption and wastewater emissions	1. Implementing water-saving solutions such as monitoring of water flow in a facility and circulating the water in closed systems.
Waste management	2. Implementing an integrated waste management plan to optimize prevention, reuse, recycling, recovery, and final disposal of waste according to waste hierarchy. 3. Separating different waste fractions to allow reuse or recirculation of the single fractions.
Air emissions	No measure identified
Energy management	1. Implementing measures to optimize energy efficiency. 2. Reusing the steam generated during the manufacture of SAPs (e.g. at Verbund sites)

Assessment and verification: The supplier has to provide a declaration to the manufacturer that the requirements have been fulfilled.

Rationale and technical feasibility:

A series of measures is preliminarily proposed to reduce the environmental impacts from the production of fluff pulp. Measures have been identified through the critical screening of the Best Available Techniques (BAT) Reference Documents for Polymers[2]. It would be important to know from stakeholders which measures would be worthy of consideration for the final criterion proposal.

The list of requirements proposed for discussion does not include the ones prescribing the implementation of technical solutions with which to achieve objectives already set within the previous sub-criteria.

Negative effects on the environment due to water use and emissions to water and air should be minimized. Some measures can lead to cost savings (e.g. reduced water use and reduction of chemicals and other auxiliaries). However, costs may vary.depending on their technological status.

Implementing energy and waste management strategies can save resources and produce monetary benefits. Although at first the implementation of a management system will probably be associated with additional costs (certification fee, labour cost etc.), it can be expected that cost saving can be achieved from the moment the measure is installed. Savings strongly depend on the efficiency of the processes before the implementation of new systems. Environmental and economic benefits could be even achieved through reusing, recycling or down-cycling materials. Detailed information on cost benefits are difficult to be estimated.

At the **2nd AHWG meeting** it will be discussed with stakeholders which measures should be kept in the **final criterion proposal**.

Area of discussion:

The following points must be clarified:

5.1) Sourcing

- Which schemes or practical approaches could be used to assess and verify the sustainability of plastics and polymers from renewables? If any, which percentage of plastics, polymers or product should come from renewables-based materials?

5.2) Heavy metals / organostannic compounds

- Are these requirements relevant? Please explain your rationale.
- Which other requirements could be of relevance for plastics?

5.3) SAP

- Are these requirements relevant? Please explain your rationale.
- Which other requirements could be of relevance for SAPs?

5.4) Industrial best practices

- Which measures should be included in the final criterion proposal?

Criterion 6: Other materials

6.1) Adhesive materials

Adhesives must not contain:

- Colophony resins,
- Diisobutyl phthalate (DIBP, CAS 84-69-5) or
- Formaldehyde (50-00-0).

The requirement does not apply if these substances

1. are not intentionally added to the material or to the final product, and
2. are present in the adhesive material in concentrations below 100 ppm (0.010% by weight).

For formaldehyde, the maximum limit for the content of formaldehyde generated during adhesive production is 250 ppm, measured in newly produced polymer dispersion. Content of free formaldehyde in hardened adhesive (glue) must not exceed 10 ppm. Hotmelt adhesives are exempted from this requirement.

Assessment and verification: The applicant should provide a declaration from the supplier that the requirements have been fulfilled. Test results for formaldehyde shall be provided.

Rationale and technical feasibility:

This criterion shall reduce sources of risk for workers and consumers with the final aim of protecting their health. The mentioned substances can be harmful to health and are even subject to Criterion 7 on Excluded or limited substances or mixtures. However, stricter requirements are set with this prescription. Additives of colophony or colophony derivative classified as sensitising according to chemical regulations are not desirable in the product due to their allergenic potential. Similar prescriptions are set in the Nordic Swan criteria for Sanitary Products.[16]

6.2) Inks and dyes

(a) The product and any homogeneous part of it must not be dyed. This prescription does not apply to tampon strings, packaging materials, tape. Titanium dioxide in polymers and viscose is exempted from this requirement.

Materials that are not directly in contact with the skin may, however, be dyed if the dye has the specific function of reducing visibility of the product through white or light coloured clothing.

(b) Inks and dyes must comply with Criterion 7 on Excluded or limited substances or mixtures.

Assessment and verification:

(a) The applicant should provide a declaration that the requirements have been fulfilled. In case dyes are used, their presence will be justified by indicating the

specific function provided.

(b) The applicant should provide a declaration from the supplier that the requirements have been fulfilled.

Rationale and technical feasibility:

Inks and dyes in the single materials of products are not directly necessary for the performance of a product (with some exceptions mentioned in the criterion text). The use of inks and dyes should be limited in order to minimise environmental impacts. Similar prescriptions are set in the Nordic Swan criteria for Sanitary Products.[6] Avoiding the use of inks and dyes, where possible, would probably decrease production costs.

6.3) Lotions and fragrances

(a) Products intended for infants, babies and children under the age of twelve years shall be fragrance-free. Infant, baby and/or children products refers to products that are marketed as designed and intended for infants, babies and/or children or have any of these words on the label/packaging.

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

(c) The following fragrances shall not be used in AHPs

Common name	**CAS number**
Cinnamal	104-55-2
Cinnamyl Alcohol*	104-54-1
Citral	5392-40-5
Coumarin	91-64-5
Eugenol*	97-53-0
Farnesol*	4602-84-0
Geraniol*	106-24-1
Hydroxycitronellal	107-75-5
Hydroxyisohexyl 3-cyclohexene carboxaldehyde (HICC)	31906-04-4
Isoeugenol*	97-54-1
Limonene (oxidised)	5989-27-5

Linalool* (oxidised)	78-70-6
Oak moss	90028-68-5
Tree moss	90028-67-4
Canaga odorata and Ylang-ylang oil	83863-30-3; 8006-81-3
Eugenia caryophyllus leaf / Flower oil	8000-34-8
Jasminum grandiflorum / Officinale	84776-64-7; 90045-94-6; 8022-96-6
Myroxylon pereirae (Balsam of Peru)	8007-00-9
Santalum album (Sandelholz)	84787-70-2; 8006-87-9
Turpentine (oil)	8006-64-2; 9005-90-7; 8052-14-0
* including their respective esters	

(d) In case a product contains lotions or fragrances, the manufacturer must declare its presence on the packaging.

***Assessment and verification**:*

(a), (d) The applicant should provide a declaration that the requirements have been fulfilled.

(b), (c) The applicant should provide a declaration from the supplier that the requirements have been fulfilled..

Rationale and technical feasibility:

(a) According to Commission recommendation 98/485/EC of 1 July 1998, Member States shall adopt the measures required to ensure a high level of child health protection in regard to some hazardous substances in childcare articles and toys intended to be placed in the mouth for children of age lower than three years.

Children bodies and immune systems are still in development and consequently children react more than adults to allergens. Higher respiratory rate and their thinner skin are factors contributing to the fact that children are more susceptible to the effects of allergens.

Children are at risk of developing allergies because every day their skin is exposed at an early age to well-known allergens in fragrances. Thus, the highest possible safety standards should be applied to children to avoid the exposure to products containing allergenic substances such as perfumes.

For this reasons, it is proposed to introduce a new restriction on the use of fragrances in products which are intended for babies and children under the age of three years, in accordance with the work done for the ongoing revision of the Commission Decision 2007/506/EC, establishing ecological criteria for the award of the Community eco-label to soaps, shampoos and hair conditioners

(b) Although the environmental impacts associated with fragrances can be considered low, these substances may still contribute to environmental and/or health concerns.

The International Fragrances Association (IFRA) published a list of ingredients contained in fragrances that they consider safe for human health and the environment. The use of certain fragrances in consumer goods is restricted if there is concern for human health or the environment. Adherence to comply with this list is enforced through the IFRA Compliance Program.[9]

In accordance with the ongoing revision of the Commission Decision 2007/506/EC, establishing ecological criteria for the award of the Community eco-label for rinse-off cosmetic product group (soaps, shampoos and hair conditioners), a list of prohibited fragrances is proposed. The last version of this **list** is based on the SCCS opinion on fragrance allergens in cosmetic products from 2012[10]. This may be updated even based on the outcomes of the **criteria revision for rinse-off cosmetic products**.

If fragrances have to be replaced by other materials, it is possible that either increases or decreases of costs may occur.

c) Lotions and fragrances can be contained in AHPs. For example, feminine care pads may be scented in order to increase the sensation of freshness. Similarly, some children's diapers contain lotions to provide extra protection against skin rash. The benefit of choice could be given to consumers if the packaging states which fragrances or lotions are contained in the product. The benefit could even be increased if the use of these substances is justified. For example, some stakeholders involved in this project stated that parents usually apply extra lotion when changing the diaper of their babies. It was reported that the amount of lotion used by parents is considerably higher compared to the amount of lotion contained in a diaper "with lotion". Consequently, if the addition of lotion were explained on the diaper packaging, the use of additional lotions could be avoided. The costs of providing this information on the packaging can be considered marginal.

Some stakeholders proposed a full ban of fragrances and lotions while other stakeholders suggest referring to list of fragrances provided within the Toy Safety Directive (Directive 2009/48/EC of 18 June 2009). **The possibility of considering stricter restrictions** will be discussed in Brussels at the **2nd AHWG meeting.**

6.4) Silicone

a) Where components of the product are treated with silicone, the manufacturer must ensure that employees are protected from the solvents.

b) Neither octamethyl cyclotetrasiloxane D4 (CAS 556-67-2) nor decamethyl cyclopentasiloxane D5 (CAS 541-02-6) can be present in chemical products used in the silicone treatment of components. The requirement does not apply if D4 and D5:

1. are not intentionally added to the material or to the final product, and
2. are present in the silicone in concentrations below 100 ppm (0.01% by weight)

Assessment and verification:

a) The applicant shall provide information on the method used for the treatment of

silicone and documentation attesting that employees are protected.

b) The applicant shall provide a declaration from the supplier that the requirements have been fulfilled.

Rationale and technical feasibility:

Some silicone components can be harmful to health. This criterion shall reduce source of risks for workers and consumers in order to protect health of people. Similar prescriptions are set in the Nordic Swan criteria for Sanitary Products.[6] It is possible that an increase in protection mechanisms is accompanied by additional costs. En estimation of the costs associated with a change of materials is of difficult prevision.

Area of discussion:

The following points must be clarified:

6.2) Inks and dyes

- Should the use of titanium dioxide in polymers and viscose be allowed or not?
- Which specific functions of dyes should be allowed?

6.3) Lotions and fragrances

- How much strict should be the requirements for fragrances and lotions?

4.2 Chemicals

Criterion 7: Excluded or limited substances or mixtures

a) Substances and mixtures of relevance for Regulation (EC) No 66/2010

Any material used in the product shall not contain substances meeting criteria for classification with the hazard statements or risk phrases specified below in accordance with Regulation (EC) No 1272/2008 or Directive 67/548/EC nor shall it contain substances referred to in Article 57 of Regulation (EC) No 1907/2006. The risk phrases below generally refer to substances. However, if information on substances cannot be obtained, the classification rules for mixtures apply.

Table 3. List of hazard statements and risk phrases:

Hazard Statement[1]	***Risk Phrase***[2]
H300 Fatal if swallowed	R28
H301 Toxic if swallowed	R25
H304 May be fatal if swallowed and enters airways	R65
H310 Fatal in contact with skin	R27
H311 Toxic in contact with skin	R24
H330 Fatal if inhaled	R26
H331 Toxic if inhaled	R23
H340 May cause genetic defects	R46
H341 Suspected of causing genetic defects	R68
H350 May cause cancer	R45
H350i May cause cancer by inhalation	R49
H351 Suspected of causing cancer	R40
H360F May damage fertility	R60
H360D May damage the unborn child	R61
H360FD May damage fertility. May damage the unborn child	R60; R61; R60-61
H360Fd May damage fertility. Suspected of damaging the unborn child	R60-R63
H360Df May damage the unborn child. Suspected of damaging fertility	R61-R62

1 *As provided for in Regulation (EC) No 1272/2008 of the European Parliament and of the Council*

2 *As provided for in Council Directive 67/548/EEC*

H361f Suspected of damaging fertility	R62
H361d Suspected of damaging the unborn child	R63
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child	R62-63
H362 May cause harm to breast fed children	R64
H370 Causes damage to organs	R39/23; R39/24; R39/25; R39/26; R39/27; R39/28
H371 May cause damage to organs	R68/20; R68/21; R68/22
H372 Causes damage to organs through prolonged or repeated exposure	R48/25; R48/24; R48/23
H373 May cause damage to organs through prolonged or repeated exposure	R48/20; R48/21; R48/22
H400 Very toxic to aquatic life	R50
H410 Very toxic to aquatic life with long-lasting effects	R50-53
H411 Toxic to aquatic life with long-lasting effects	R51-53
H412 Harmful to aquatic life with long-lasting effects	R52-53
H413 May cause long-lasting harmful effects to aquatic life	R53
EUH059 Hazardous to the ozone layer	R59
EUH029 Contact with water liberates toxic gas	R29
EUH031 Contact with acids liberates toxic gas	R31
EUH032 Contact with acids liberates very toxic gas	R32
EUH070 Toxic by eye contact	R39-41
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled	R42
H317: May cause allergic skin reaction	R43

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

Concentration limits for substances or mixtures which may be or have been assigned the hazard statements or risk phrase listed above, meeting the criteria for classification in the

hazard classes or categories, and for substances meeting the criteria of Article 57 (a), (b) or (c) of Regulation (EC) No 1907/2006, shall not exceed the generic or specific concentration limits determined in accordance with the Article 10 of Regulation (EC) No 1272/2008. Where specific concentration limits are determined they shall prevail over the generic ones.

Concentration limits for substances meeting criteria of Article 57 (d), (e) or (f) of Regulation (EC) No 1907/2006 shall not exceed 0.1% weight by weight.

(b) Substances listed in accordance with article 59(1) of Regulation (EC) No 1907/2006

No derogation from the exclusion in Article 6(6) of the Regulation (EC) No 66/2010 shall be given concerning substances identified as substances of very high concern and included in the list foreseen in Article 59 of Regulation (EC) No 1907/2006, present in any materials used in the product in concentrations >0.1%. Specific concentration limits determined in accordance with Article 10 of Regulation (EC) No1272/2008 shall apply in cases where the concentration is lower than 0.1%.

Assessment and verification:

(a) For each material used in the product, the applicant shall provide a declaration of compliance with this criterion, together with related documentation, such as declarations of compliance signed by their suppliers, on the non-classification of the substances or materials with any of the hazard classes associated to the hazard statements referred to in the above list in accordance with Regulation (EC) 1272/2008, as far as this can be determined, as a minimum, from the information meeting the requirements listed in Annex VII of Regulation (EC) 1907/2006.

Compliance with this criterion will be demonstrated by providing a declaration on the non-classification of each substances into any of the hazard classes associated to the hazard statements listed above in accordance with Regulation (EC) 1272/2008, as far as this can be determined, as a minimum, from the information meeting the requirements listed in Annex VII of the Regulation (EC) 1907/2006.

This declaration shall be supported by summarized information on the relevant characteristics associated to the hazard statements referred to in the above list, to the level of detail specified in section 10, 11 and 12 of Annex II of Regulation (EC) 1907/2006 (Requirements for the Compilation of Safety Data Sheets). Whenever possible, reference shall be made to the list of registered substances under the REACH regulation scheme, available at: http://echa.europa.eu/information-on-chemicals/registered-substances. In alternative, reference shall be made to the C&L inventory database, available at: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database

Information on intrinsic properties of substances may be generated by means other than tests, for instance through the use of alternative methods such as in vitro methods, by quantitative structure activity models or by the use of grouping or read-across in accordance with Annex XI of Regulation (EC) 1907/2006. The sharing of relevant data is strongly encouraged. The information provided shall relate to the forms or physical states of the substance or mixtures as used in the final product.

For substances listed in Annexes IV and V of REACH, exempted from registration

obligations under Article 2(7)(a) and (b) of Regulation 1907/2006 REACH, a declaration to this effect will suffice to comply with the requirements set out above.

(b) The applicant shall provide a declaration of compliance with this criterion, together with related documentation, such as declarations of compliance signed by the material suppliers and copies of relevant Safety Data Sheets for substances or mixtures in accordance with Annex II to Regulation (EC) No 1907/2006 for substances or mixtures. Concentration limits shall be specified in the Safety Data Sheets in accordance with Article 31 of Regulation (EC) No 1907/2006 for substances and mixtures.

The list of substances identified as substances of very high concern and included in the candidate list in accordance with Article 59 of Regulation (EC) No 1907/2006 can be found on the ECHA webiste:

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

Reference to the list shall be made on the date of application.

Rationale and technical feasibility

According to the Article 6(6) of Regulation (EC) No 66/2010 on the EU Ecolabel, the EU Ecolabel may not be awarded to goods containing:

1. 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 (CLP),
2. Substances of Very High Concern, as referred to in Article 57 of Regulation (EC) No 1907/2006 (REACH).

The identification of potential sources of hazard is based on a list of hazard statements / risk phrases which apply to all the EU Ecolabel products (see Table 3). The list generally refers to substances. However, if information on substances cannot be obtained, the classification rules for mixtures apply.

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

Stakeholders involved in the project underlined that AHPs are designed in order to ensure that no safety issues occur and that human health is not threatened at any time. Declaring that substances meeting the requirements for classification according to the table above are not contained in AHPs should not be a problem for manufacturers. However, it would be worth to investigate with stakeholders whether the design of different sizes of the same product type could eventually result in different concentrations of substances.

Hazards for the environment or human health would be minimised by ensuring that the product considered for the EU Ecolabel fulfil the requirements for excluded or limited substances. In order for the Competent Bodies to check whether the product complies with this criterion, it would be helpful if the applicant submits a list of all substances contained in or added to AHPs. It should be ensured that substances do

not meet the requirements for being classified with the hazard statements and the risk phrases listed above.

Derogations are in general possible only if it is not technically feasible to substitute a substance or groups of substances or if the use of alternative substances would increase the environmental performance significantly. No derogation is instead possible for substances meeting the criteria of Article 57 of EC Regulation No 1907/2006 in concentrations exceeding 0.1% by weight. This is the minimal prescription to be respected. Stricter prescriptions can be even considered for particular groups of substances by decreasing concentration thresholds and/or referring to single materials, homogeneous parts of the product, or groups of substances. The list of substances identified so far as SVHC (Substances of Very High Concern) can be found in: http://echa.europa.eu/web/guest/candidate-list-table.

The text of the presented criterion has been adapted from the one used for Sanitary Tapware within the EU Ecolabel scheme.

It has been explored if a derogation is necessary for sodium polyacrylates, the super absorbent polymer typically used for AHPs. Preliminary investigation indicates that sodium polyacrylates is considered an inherently safe material (it is classified as H412 – "Harmful to aquatic life with long lasting effects" – only in 1 out of 223 notifications received by the European Chemicals Agency[11]).

In addition to the horizontal restriction of substances as outlined above, further requirements for specific groups of substances/uses of substances have been proposed (see requirements above on materials).

4.3 Manufacture of AHPs

Criterion 8: Minimisation of production waste

The amount of production waste that is not reused within the AHP manufacturing process or not converted to useful materials and energy shall not exceed 0.5% by weight of the end product.

Assessment and verification: The applicant shall provide evidence of the amount of waste that cannot be reused within the AHP manufacturing process or that is not converted to materials and energy.

Rationale and technical feasibility

The manufacturing process contributes to 1-12% of the environmental impacts associated with AHPs, depending on the indicator and on the specific product considered. The highest values are registered for global warming potential with tampons (8%) and breast pads (12%), mainly because of the lower weight of materials for these products.

The dominant proportion of environmental burdens is associated with a demand of energy. However, potential for setting criteria on this issue is considered limited due to the lack of statistical information on the consumption of energy per unit of product.

The development of a criterion on the production and disposal of waste seems more feasible, although this issue plays a less significant role. Clear economic and environmental benefits are associated with the reduction of production waste that cannot be reused in the AHP manufacturing process or that are not converted to useful materials and energy. Many stakeholders involved in this project stated that it is one of their key targets to reduce the amount of production waste. The estimation of the relevant costs needed to achieve this target is not possible because it depends on technical parameters related to specific individual situations.

4.4 End of Life

Criterion 9: Guidance on the product disposal

The producers shall write or indicate through visual symbols on the packaging that the product must be disposed in waste bins and not flushed into the toiled.

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

Rationale and technical feasibility

The LCA carried out for this project reveals that contribution of the end-of-life stage to the impacts of AHPs is significant, especially with respect to eutrophication potential (16% to 25%) and to global warming potential (27% to 33%). Hence, reducing the impacts from the end-of-life would contribute towards an overall improved environmental performance. However, setting criteria on End of Life issues is complicated by the limited possibilities of intervention on the disposal of the AHPs after use. At the moment, the only action identified for achieving some effective benefits for the environment would be to ask producers of AHPs to write on the packaging that the products have to be disposed in waste bins and not flushed into the toilet. Based on feedback received by stakeholders, it is proposed to apply this requirement to all the products within the scope of this Product Group.

4.5 Fitness for Use

Criterion 10: Fitness for use and quality of the product

The efficiency/quality of the product must be satisfactory and must at the least match that of equivalent products on the market.

Fitness-for-use has to be tested with respect to the characteristics and parameters reported in Table 4 . Performance thresholds must be matched, where these have been identified.

Table 4. Fitness-for-use characteristics and test methods

Characteristic and parameter		Scope	Tests	Performance threshold
User tests	Overall performance	All AHP	• User trial	90% of the consumers testing the product shall rate themselves as "satisfied" (rating 4) or "very satisfied" (rating 5) in a rating scale from 1 to 5.
	Leakage protection	All AHP	• User trial	Leakage results in less than 10% of all diaper changes.
	Skin dryness and compatibility	All AHP	• User trial	90% of the consumers testing the product shall rate themselves as "satisfied" (rating 4) or "very satisfied" (rating 5) in a rating scale from 1 to 5.
	Fit and comfort	All AHP	• User trial	90% of the consumers testing the product shall rate themselves as "satisfied" (rating 4) or "very satisfied" (rating 5) in a rating scale from 1 to 5.

Safety tests	Chemical safety	All AHP	• Tests in accordance with the Oeko-Tex Standard 100	not available
	Microbiological safety	All AHP	• Tests in accordance with ISO 11737-1	to be determined
Technical tests	Absorption	All AHP	• Absorption rate • Absorption before leakage	not available
	Skin dryness and compatibility	All AHP	• Skin wetting (rewet) • Dermatological testing	not available
	Evaluation of the closure/fastening system	All AHP	• Tensile strength for tapes and elastics	not available

Assessment and verification:

A test report must be provided including a description of test methods, test results and data used.

The test methods used must be based as much as possible on product-relevant, reproducible and rigorous methods. Tests can be carried out by laboratories certified to implement quality management systems, no matter if internal or external.

Sampling, test design, panel recruitment and the analysis of test results must comply with ASTM E1958-07e1. Tests should be conducted on the main product designs and/or the most common size. Special care must be taken regarding sampling, transport and storage of the products to guarantee comparable results. It is recommended not to blind products or repack them in neutral packaging due to the risk of altering the performance of products and/or packaging.

Information on the test methods used must be made available to all relevant stakeholders, for instance on the company website. The results must be presented in language, units and symbols that are understandable to the consumers. The presentation of the test results must be clearly explained. It must include the criteria used to select the products tested, the representativeness and the sampling of the products, the characteristics selected and if applicable, the reasons why some were not included, the test methods used and their limitations if any. External factors such as branding, market shares and advertising that may have an impact on the perceived performance of the products should be communicated. Clear guidelines on the use of test results must be provided (for example, it should be required to indicate the date and source of the test result).

Additional requirements for user tests:

- Consumer surveys must be conducted and analysed according to standard statistical practices, i.e. ASTM E1958-07e1
- The recommended number of required answers in a user panel is at least 30
- The results are to be statistically evaluated after the user trial has been completed
- Each product should be assessed on the basis of a questionnaire compiled by the test institute. The test is to last at least 72 hours per test, a full week when possible
- The ratio of male to female individuals should be 1:1 (not applicable to products designed specifically for one gender)
- All participants should be current users of the specific type/size of diaper being tested
- A mixture of participants representing proportionally different groups of consumers available on the market should take part in the study
- The product should be used under direct supervision of the respondents, in the same way and conditions as the product they normally use.
- If the test is conducted in a different country than the target market, the name of the country should be clearly stated
- Sick individuals those with a chronic skin condition should not participate in the test. In cases where individuals become ill during the course of the user trial, this is to be indicated on the questionnaire and the results are not to be taken into consideration for the assessment.

Additional requirements for safety tests:

- Chemical tests shall be carried out in accordance with the Oeko-Tex Standard 100.
- The determination of the microbiological quality shall be carried out on the original product in accordance with ISO 11737-1 "Sterilization of medical devices - Microbiological methods - Part 1: Determination of a population of microorganisms on products". As applicable, other guidelines, recommendations, relevant legal decisions, scientific publications and other regulations and standards may also be taken into consideration.

Additional requirements for technical tests:

- Tests can be conducted with saline solution (0.9% NaCl analytical grade in de-ionized water)
- A minimum of 5 samples should be tested, and results should be reported with the average and standard deviation from those 5 samples.
- A description of the construction of the diaper should be recorded, together with the weight and dimensions of the diaper.

Rationale and technical feasibility

The environmental benefits associated with a product are influenced by conditions of use. One of the aims of the EU Ecolabel is that the advantages of having a product fulfilling certain environmental criteria are not off-set by a bad performance of the same, which could ultimately result in consuming more units of the product. Potential trade-offs between frequency of use and environmental impacts of the products should be avoided by ensuring that products fit adequately for their use.

To put into practice, manufacturer should provide evidence that the products registered for the EU Ecolabel fulfil an adequate level of performance.

Tests are regularly carried out among manufacturers and have been under development for a long time. However, according to stakeholders involved in this project, no harmonised standards or widely accepted industry methods are available, at the moment, to test the most important performance characteristics for the products. However, a significant part of the industry would welcome the use of consumer panel tests..

Due to the fact that there are no harmonised test methods for the various fitness-for-use criteria, cost estimations are difficult to determine. Besides carrying out particular test methods as suggested below, manufacturers of AHP will also have the option of running consumer panel tests with regards to the fitness-for-use parameters. The costs for large scale consumer tests can be high (> EUR 100K) and sometimes can take up to 3 months. However, costs for these consumer tests should decrease considerably by requiring a minimum of 30 participants.

Members of EDANA informed the Commission that they are currently working on the definition of guidelines for the testing of baby diapers ("EDANA Guideline for the testing of baby diapers"). This document has been considered to represent an important reference for the designing a criterion on fitness-for-use. While guidelines seem to refer to the comparison between products of different brands, the interest of the EU Ecolabel is to evaluate the performance of a single product, possibly against technical performance benchmarks. Thus, EDANA's guidelines has been adapted to the needs of the EU Ecolabel scheme.

The performance characteristics describing the main functionalities that the products within the scope of this project would need to fulfil are reported above in Table 3. A description of testing procedures typically used by industry for (some of) those characteristics is reported below;

Overall performance:

An overall performance assessment of AHPs can only be achieved by a **consumer test**. The interaction of different features of AHPs (e.g. fit, breathability, fluid acquisition, rewet or bowel movement absorption) is too complex to assess them separately.

In a consumer test, participants provide a subjective assessment by completing questionnaires. The test can be a diary study or it can be even carried-out only at the end of the trial period, which should be at least one week long. Mixed views were provided by the stakeholders with respect to the number of participants involved in the test. Some stakeholders stated that the test should involve at least 100 test participants representative for the overall population. Other stakeholders believe that

30-40 is a more reasonable number. It was even mentioned that guidelines for user tests could be available within the Standard ISO 16021:2000 "Urine-absorbing aids - Basic principles for evaluation of single-use adult-incontinence-absorbing aids from the perspective of users and caregivers".

For instance, it could be asked consumers to evaluate AHPs with a rating scale:

- from 1 to 5 (1 = Very dissatisfied; 2 = Dissatisfied; 3 = Neither satisfied nor dissatisfied; 4 = Satisfied; 5 = Very satisfied); or
- from 1 to 7 (1 = Extremely poor; 2 = Poor; 3 = Below average; 4 = Average; 5 = Above average; 6 = Good; 7 = Extremely good).

X% of the consumers (e.g. 90%) should result satisfied or very satisfied by the use of the product or should rate the product at least as "above the average".

Because reproducing real life conditions, in-use tests are considered by some stakeholders the most reliable method to assess some of the **single performance areas** reported in the followings.

Leakage protection:

The testing of leakage protection is closely related to moisture retention as it determines how well an AHP can keep and does not release liquids.

The most reliable test method to compare leakage protection of different diapers is a **diary study** (see above). This method takes into account both, the liquid handling performance of a diaper as well as the diaper fit. The statistical evaluation of such studies allows also to assess the leakage protection under different conditions (day/night, different loading of the diaper, etc.) and therefore is the most comprehensive method.

It was indicated by stakeholders that the **LD50 test**, which is based on large scale consumer panels, can provide statistical information about the amount of leakage registered after each diaper change. Alternatively, large scale consumer panel tests can be used to rate the leakage performance after 1 week of usage. **Best performing diapers** could be selected based on the following parameters:

- Best in class: leakage result in less than 5% of all diaper changes;
- Good performing diapers: leakage result in less than 10% of all diaper changes;
- X% of consumers rate the product very good or excellent.

Absorption before leakage and **speed of absorption** are other two methods that are correlated to this performance area.

Skin dryness and compatibility:

Skin dryness generally refers to the advantage of AHPs to lead liquids away from the skin, avoiding skin irritation.

One particularly relevant test method is the clinical skin hydration measurements using **"trans-epidermal water loss" (TEWL) measurements**.[12] This method determines the skin dryness performance of a diaper, as it allows to measure skin

dryness in an objective way taking into account for important properties as skin dryness, fluid management and breathability performance. According to stakeholders involved in this project, this method has been chosen as a standard to support advertising claims on skin dryness by the British Advertising regulatory agency. This method measures skin dryness in the diaper area of small children wearing a diaper overnight using commercially available Evaporimeters (e.g. Tewameter (Courage + Khazaka, Cologne, Germany), Dermalab (Cortex Technology, Hadsund, Denmark), Vapometer (Delphin, Kuopio, Finland). Stakeholders recommend that a skin hydration study with this method should include about 50 children per product and needs to be performed in a dermatological laboratory under standard conditions (21 °C, 45 % rel. humidity).

Diary studies are also considered a reliable method for determining the skin dryness performance of a diaper. However, compared to the TEWL method, results are based only on a subjective dryness assessment, which can be influenced by brand and aesthetics.

Another test method to assess skin dryness is the **rewet method**. It is a laboratory method, that can be used to estimate the skin dryness performance of a diaper, but only if the different products have comparable breathability and fit. For this method a diaper is loaded with a certain amount of synthetic urine and after a waiting time a pressure is applied onto a paper or collagen sheet put onto the inner liner of the diaper, simulating the child sitting down. This test method is patented by Procter & Gamble in the US (U.S. Patent No 6085579).

Corneometric testing methods also exist to determine skin dryness. Corneometric testing determines the dampness of the skin and is measured at a specific time after the AHP has been removed from the skin. The research lab ‘dermatest’ provides further details on the test method.[13]

Fit and comfort:

The product performance characteristic fit and comfort provides insights as to how well AHPs fit and allow the user to be comfortable while wearing them. According to stakeholder feedback, no appropriate test methods exist with the exception of consumer panel testing.

Absorption capacity:

The absorption capacity of AHPs generally describes the amount of liquid that can be absorbed by the product. Stakeholders involved in this project commented that absorption capacity is a criterion that should not be assessed versus a maximum possible absorption rate but rather versus an optimum. If the capacity is below the optimum, this can impact the dryness and leakage performance; if the capacity is above the optimum, it does not add further benefits from the point of view of performance. Consequently, the absorption capacity under a given pressure is considered more suitable and thus the test method MDT 10301 following ISO 11948-1 is not acceptable since it is a test method without applied pressure.[14] Absorption capacity under pressure is a generic testing concept for AHPs.

The **"Absorption before leakage" (ABL) test** has been developed by the renowned independent test lab "Courtray's labservice".[15] to evaluate the performance of **incontinence products**. According to stakeholder feedback it has proved to be a good test method even for assessing leakage protection and adsorption under pressure of **diapers**. However, since the test is performed on a mannequin, movement of a child can only be simulated partially. Moreover, also bowel movement is not simulated. Taking into account these limitations, the ABL test should be used to complement a diary study and not to replace it completely. The ABL follows the test method WSP 354.0 (08) and was published by EDANA, INDA and Worldwide Strategic Partners in 2008.[16] The same document indicates that EDANA developed an equivalent method (WSP 354.1 (10)). An **absorption under pressure test** method also exists **for superabsorbent materials**, i.e. WSP 242.2 (05)[8].

Another absorbency indication could be given by the **'Speed of absorption'**. The test consists on measuring the speed of absorption of a standard **diaper** under the application of a relevant pressure (e.g. 2-3.5 kPa) and a representative amount of liquid (e.g. 300 mL of synthetic urine to simulate overnight conditions). However, no harmonized methods are yet available.

For **tampons**, a specific test method exists that was developed by EDANA, i.e. WSP 350.1 (05).[17] The method specifies a test procedure for the in-vitro measurement of absorbency of menstrual tampons by the Syngina method. However, EDANA points out that this laboratory test is not intended to be used for predicting absorbency in-vivo. It is applicable for products with an absorbency of up to 25 grams. Further details can be obtained from the description of this test method. Based on the results of this test, the Code of Practice for Tampon[18] identifies 5 classes of absorbency, depending on the flow conditions:

- Class 1, <6 g
- Class 2, 6-9 g
- Class 3, 9-12 g
- Class 4, 12-15 g
- Class 5, 15-18 g

Some additional performance characteristics have been mentioned by some stakeholders (see below). These characteristics have not been included in the criterion above because they did not form part of the "EDANA Guideline for the testing of baby diapers", which was largely used to draft this preliminary version of the criterion. Nevertheless, it could be that some aspects like odour control or dermatological testing could be of relevance for some of the products within the scope of this project.

Moisture retention:

Moisture retention describes the capacity of AHPs to hold liquid. It is considered an important parameter with correlation to the dryness performance of a diaper core.

As the highest need for good performance is overnight, **in-use testing** should take into account for long wearing time and high loads. Thus, retention should be tested applying the average overnight load, i.e. 300 ml, and realistic pressure. A value covering the 90%-tile of loads may be even used.

A specific test method for **superabsorbent materials**, i.e. WSP 241.2 (05), is mentioned in the Inda/EDANA report.[9] The test determines the fluid retention capacity in saline solution by gravimetric measurement following centrifugation. It is based on the ISO Standard 17190–6:2001, Urine-absorbing aids for incontinence - Test methods for characterizing polymer-based absorbent materials - Part 6: Gravimetric determination of fluid retention capacity in saline solution after centrifugation.[19]

Odour control:

This test method relates to the determination of odour concentrations being released by AHPs in use. The relevant standard, i.e. DIN EN 13725:2003-07 defines the mass that is just detectable when evaporated into 1 m3 of neutral gas. Further details can be found in the respective Standard.[20]

Dermatological testing:

It is common practice to carry out dermatological tests (on humans) of all materials contained in AHPs before use, often by both suppliers and AHP manufacturers. However, no common standards are available, according to stakeholder feedback. Research on relevant standards or testing procedures did not lead to any standard industry-wide definitions used to determine how a product must be tested or the results it needs to achieve, before such a claim can be made.[21]

Area of discussion

A discussion is planned at the 2nd AHWG meeting in order to **shape the final version** of this criterion. In particular, a decision must be taken with respect to:

- which performance characteristics are worthy of consideration for which product
- which assessment and verification procedure to follow
- for which characteristics it is possible to set performance thresholds and how.

4.6 Other issues considered

Other two issue of relevance for the criteria development process are:

1. The information appearing in the EU Ecolabel (to be discussed)
2. The consideration of social aspects

Criterion 11: Information appearing on the EU Ecolabel

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

The optional label with text box shall contain the following text:

1. The product satisfies the most relevant performance and quality tests;
2. The use of substances of concern for human health and environment is restricted;
3. The product is designed in order to reduce the impact from the consumption of resources

The guidelines for the use of the optional label with text box can be found in the "Guidelines for use of the Ecolabel logo" on the website: http://ec.europa.eu/environment/ecolabel/documents/logo_guidelines.pdf

The following text should moreover appear on the packaging:

"For more information on why this product has been awarded the EU Ecolabel, please visit http://ec.europa.eu/environment/ecolabel/".

Assessment and verification: The applicant shall provide a sample of the product label, together with a declaration of compliance with this criterion

Rationale and technical feasibility

The Regulation (EC) No 66/2010 specifies that "for each product group, three key environmental characteristics [...] may be displayed in the optional label […]". Based on the current set of criteria proposed, four possible sentences have been identified:

1. The product satisfies the most relevant performance and quality tests;
2. The use of substances of concern for human health and environment is restricted;
3. The product is designed in order to reduce the impact from the consumption of resources
4. This product does not contain allergenic fragrances.

Up to three sentences should be proposed (to be discussed in Brussels at the 2nd AHWG meeting).

The following text should moreover appear on the packaging:

"For more information on why this product has been awarded the EU Ecolabel, please visit http://ec.europa.eu/environment/ecolabel/".

Verification should rely on declaration of compliance by the applicants and visual evidence of the packaging.

The requirement would produce potential benefits for consumers and for the image of the company.

Criterion 12: Social aspects

Applicants shall ensure that the fundamental principles and rights at work as specified in the International Labour Organisation's Core Labour Standards shall be observed by all production sites used to manufacture EU Ecolabelled products. The ILO Core Standards are:

029 Forced Labour

087 Freedom of Association and Protection of the Right to Organise

098 Right to Organise and Collective Bargaining

100 Equal remuneration

105 Abolition of Forced Labour

111 Discrimination (Employment and Occupation)

138 Minimum Age Convention

182 Elimination of the Worst Forms of Child Labour

Assessment and verification:

The applicant shall obtain reports on compliance from their production sites and from the productions sites of their suppliers. These should be compiled and provided to Competent Bodies. Third party certification will be accepted as evidence of compliance. A license may be suspended or revoked if substantive evidence is received that ILO Core Labour Standards have been breached.

Rationale and technical feasibility

The consideration of social aspects may be an area in which it will be difficult for the Competent bodies to evaluate documentation or to evaluate findings from audits. One possibility is therefore verification of compliance for productions sites by recognised third party assurance schemes. Schemes identified as being used by industry include:

- Business Social Compliance Initiative (BSCI)
- Global Social Compliance Programme (GSCP)
- Ethical Trading Initiative (ETI)
- Fair Labor Association (FLA)
- Fair Wear Foundation (FWF)

- Social Accountability 8000 (SA8000)
- Worldwide Responsible Apparel Production (WRAP)
- Global Reporting Initiative (GRI)

Codes of Conduct included within these schemes specifically address human rights, labour rights, working agreements and salaries and occupational health and safety issues.

Verification should rely on reports of compliance from production sites and from suppliers. These should be compiled and provided to Competent Bodies. Third party certification should be accepted as evidence of compliance. Licenses could be suspended or revoked if substantive evidence is received that ILO Core Labour Standards have been breached.

The requirement would produce potential benefits for the image of the company. Social benefits would be even associated to this prescription. The estimation of the relevant costs is not possible because it depends on technical parameters related to specific individual situations and which are currently not available.

This criterion could be updated based on the work done by the horizontal task force dealing with social aspects within the EU Ecolabel.

4.7 Other issues not considered

A life cycle approach is necessary to ensure that the environmental performance of a product is assessed consistently. By means of commonly used impact categories, the environmental performance of products can be determined over their entire life cycle and for a range of different environmental issues, hence allowing the avoidance of undesirable trade-offs.

The AHPs sector is familiar with LCA. Product Category Rules (PCR) have been developed for AHPs for two different schemes: Environdec (by EDANA) and the French BP X30-323. PCRs provide specific guidelines on how to carry out an LCA study for a particular group of products and how to calculate the environmental impacts. Following PCRs ensures that the life cycle performance of equivalent products is calculated under the same methodological assumptions and thus increases the level of comparability of the results.

The development of criteria based on life cycle indicators is currently limited within the EU Ecolabel scheme by:

- The lack of solid and widely accepted rules (the Commission has developed a Product Environmental Footprint methodology[22] but conditions are not yet mature enough for its application to AHPs).
- The lack of information for calculating a distribution of the life cycle impacts associated with statistical samples of products and the following definition of environmental benchmarks.

Moreover, a LCA study could represent a burden for SME since the cost of such a study could vary between EUR 20K and EUR 60K. The costs for the verification of an LCA can be estimated to be between EUR 5K and EUR 10K.

In order to provide an incentive for the improvement of the environmental performance of AHPs, manufacturers could commit on reducing the environmental burdens of their products, as required within the Carbon Reduction Label.[23] However, this would not ensure that the environmental performance of the product is superior to that of other products on the market. Therefore, no criteria on the overall environmental performance of the product are proposed for the EU Ecolabel.

5. Conclusion

This report describes the preliminary set of criteria suggested for the award of the EU Ecolabel for absorbent hygiene products (AHP). For the development of the criteria, key principles are followed which are in line with the philosophy of the EU Ecolabel.

A multi-criteria approach is adopted encompassing various dimensions of sustainability. The key focus is on the environmental performance of AHPs but also social implications related to the manufacture of AHPs could be considered (see Section 4.6). For all criteria proposed, financial implications are considered in order to avoid prohibitively high costs for AHP manufactures.

It is considered of great importance to ensure that the criteria developed for AHPs do not negatively influence the product performance. Consequently, a set of fitness-for-use criteria is included which incorporates specific performance test measures (see Section 4.5).

With regards to criteria aimed at the environmental performance of AHPs, LCA evidence suggests that the main focus should be on materials, both in terms of production and use in the final product. The proposed set of criteria (see Section 4.1) requires AHP manufacturers to closely collaborate with their suppliers. In particular, the presence of requirements on the use of materials in the products would be probably the most effective measure to select more eco-friendly products on the market. However, the practical possibility of setting some requirements on product design is considered possible only if the identification of functionally equivalent types of products is not complicated by the lack of harmonised classification and if data are available in order to set weight or environmental thresholds.

Another criterion aims at restricting the use of chemical substances of concern and as such reflects the legal requirements posed by the EU Ecolabel Regulation (see Section 4.6).

Potential for setting criteria on production and disposal of AHPs is considered limited (see Section 4.3 and Section 4.4). However environmental impacts associated with the production and the disposal of AHPs are smaller compared to the production of materials.

Reflecting the feedback received from stakeholders involved in this project, the development of criteria based on lifecycle indicators would be an important criteria area. However, at this stage of the project there are practical limitations to the development of such prescriptions (see Section 4.7).

Moreover, because of the relatively low contribution to the lifecycle impacts of the product, it was not considered relevant to introduce criteria for packaging.

It is expected that this set of criteria will assist in the reduction of negative impacts of consumption and production on the environment, on human health and natural resources from the use of AHPs. It can be assumed that consumers will value the

efforts undertaken by manufacturers of AHPs to comply with these criteria by purchasing their products.

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