



JRC SCIENTIFIC AND POLICY REPORTS

**Development of EU Ecolabel Criteria
for Absorbent Hygiene Products**
(formerly referred to as “Sanitary Products”)

Technical Report – final

February 2014

Development of EU Ecolabel Criteria for Absorbent Hygiene Products

(formerly referred to as “Sanitary Products”)

Technical Report – final

DATE: February 2014

Authors: Mauro Cordella, Oliver Wolf

European Commission JRC – IPTS

DG JRC (IPTS) 2014

Table of Contents

- Table of Contents..... 3**
- List of Abbreviations 5**
- 1. Introduction 8**
- 2. Definition of the product group scope..... 10**
- 3. List of Proposed Criteria for the EU Ecolabel of Absorbent Hygiene Products..... 11**
- 4. EU Ecolabel criteria proposal 12**
 - 4.1 Materials..... 12**
 - Criterion 1: Use of materials 14
 - Criterion 2: Fluff pulp 18
 - Criterion 3: Man-made cellulose fibres (including viscose, modal, lyocell, cupro, triacetate) 23
 - Criterion 4: Cotton and other natural cellulosic seed fibres 25
 - Criterion 5: Plastic materials and Super Absorbent Polymers 27
 - Criterion 6: Other materials and components..... 36
 - 4.2 Chemicals 42**
 - 4.3 Manufacture of AHPs 44**
 - Criterion 8: Material efficiency in the manufacturing..... 44
 - 4.4 End of Life 45**
 - Criterion 9: Guidance on the product disposal 45
 - 4.5 Fitness for Use..... 46**
 - Criterion 10: Fitness for use and quality of the product 46
 - 4.6 Other issues considered..... 52**
 - Criterion 12: Information appearing on the EU Ecolabel 54
 - Life Cycle Assessment 55
 - Energy use during the production of fluff pulp 55
- 5. Conclusion..... 58**

ANNEX 1: Table of Comments received before 31 August 2013.....	59
ANNEX 2: Table of Comments received between 31 August 2013 and 31 December 2013.....	80

List of Abbreviations

ABL	Absorption before leakage
ADEME	Agence de l'Environnement et de la Maîtrise de l'Energie (The French Environment and Energy Management Agency)
ADL	Acquisition and distribution layer
AHP	Absorbent hygiene products
AOX	Adsorbable organic halogen compounds
AP	Acidification potential
ASTM	American Society for Testing and Measurement
BBP	Benzyl butyl phthalate
BOM	Bill of materials
CAS	Chemical Abstracts Service
CHP	Combined heat and power plant
CLP	Classification, labelling and packaging
CMR	Carcinogenic, mutagenic and reprotoxic
CO _{2,eq}	Carbon Dioxide, equivalent
COD	Chemical oxygen demand
CSA	Canadian Standards Association
CS ₂	Carbon Disulfide
CTMP	Chemi-Thermo-Mechanical pulp
DBP	Dibutyl phthalate
DEHP	Bis(2-ethylhexyl)phthalate
DIN	Deutsches Institut für Normung (German Institute for Standardization)
DnOP	di-n-octyl phthalate
ECF	Elemental Chlorine Free
ECNZ	Environmental Choice New Zealand
ECHA	European Chemicals Agency
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
EEC	European Economic Community
EINECS	European Inventory of Existing Commercial Chemical Substances

EMAS	Eco-Management and Audit Scheme
EP	Eutrophication potential
EPD	Environmental Product Declaration
ESP	Electrostatic precipitator
EU	European Union
FF	Fabric filter
FSC	Forest Stewardship Council
GECA	Good Environmental Choice Australia
GHG	Greenhouse gas
GmbH	Gesellschaft mit beschränkter Haftung (company with limited liability)
GOTS	Global organic textile standard
GPP	Green Public Procurement
GPSD	General Product Safety Directive
GWP	Global warming potential
H ₂ SO ₄	Sulfuric acid
HR IPT	Human Repeat Insult Patch Test
IFOAM	International Federation of Organic Agriculture Movements
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
NO _x	Nitrous oxides
P	Phosphorus
MBT	Mechanical-biological treatment
OCIA	Organic Crop Improvement Association
PBT	Persistent, bioaccumulative and toxic
PCR	Product category rules
PE	Polyethylene
PEFC	Programme for the Endorsement of Forest Certification
PET	Polyethylene terephthalate
POCP	Photochemical ozone creation potential

PP	Polypropylene
PPWD	Packaging and Packaging Waste Directive
PU	Polyurethane
PVC	Polyvinyl chloride
RAPEX	Rapid Exchange of Information System
REACH	Registration, Evaluation, Authorisation and Restriction of Chemical substances
REPA	Recycling system for packaging (Sweden)
S	Sulphur
SAF	Superabsorbent fibres
SAP	Superabsorbent polymers
SEMCo	Swedish Environmental Management Council
SFI	Sustainable Forestry Initiative
SVHC	Substances of very high concern
TARIC	Tarif intégré des Communautés européennes (Integrated tariff of the European Union)
TCF	Total Chlorine Free
TEWL	Transepidermal water loss
TMP	Thermomechanical pulp
TOC	Total organic carbon
vPvB	Very persistent and very bioaccumulative
WSP	Worldwide Strategic Partners
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). 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 on natural resources.

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 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 “absorbent hygiene products” shall include baby diapers, feminine care pads (e.g. sanitary pads/napkins and panty liners), tampons and nursing pads (also known as breast pads), which are used for the physical and direct collection of human body waste streams, are composed of a mix of natural fibres and polymers, with the fibre content lower than 90% by weight and are disposable.
2. The product group shall not comprise incontinence products and any other type of products falling under the scope of Council Directive 93/42/EEC¹.

Based on the feedback received by stakeholders, it is generally agreed that **products with specific design and size** (e.g. a size-4 pull-on diaper produced by the company X) should be awarded the EU Ecolabel.

Definitions:

- (1) 'Cellulose pulp' means a fibrous material mainly composed of cellulose and obtained from the treatment of lignocellulosic materials with one or more aqueous solutions of pulping and/or bleaching chemicals.
- (2) 'Optical brightener' and 'fluorescent whitening agent' mean any additives used with the only purpose of 'whitening' or 'brightening' the material.
- (3) 'Plastic materials', also referred to as 'Plastics', means synthetic polymers to which additives or other substances may have been added which can be moulded and used as main structural component of final materials and articles.
- (4) 'Synthetic polymers' means macromolecular substances other than cellulose pulp intentionally obtained either by:
 - A polymerisation process such as poly-addition or poly-condensation or by any other similar process of monomers and other starting substances;
 - Chemical modification of natural or synthetic macromolecules;
 - Microbial fermentation.
- (5) 'Super absorbent polymers' means synthetic polymers designed for absorbing and retaining large amounts of liquid compared to their own mass.

¹ Council Directive 93/42/EEC of 14 June 1993 concerning medical devices (OJ L 169, 12.7.1993, p. 1).

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

Based on the outcomes of the preliminary report, the following EU Ecolabel criteria are proposed for AHPs.

Table 1: Overview of criteria areas and individual criteria proposed for the EU Ecolabel of AHPs

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

4. EU Ecolabel criteria proposal

4.1 Materials

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. Decoupling 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 CO₂. However the implementation of one of these options would require a statistically representative sample of 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^{2 3 4} in available literature on chemistry⁵, in environmental criteria developed for AHPs and/or other products by the Commission⁶ or by other organisations⁷. 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.

2 European Commission: Best Available Techniques (BAT) Reference Document for the Production of Pulp, Paper and Board, Draft May 2012.

3 European Commission: Best Available Techniques (BAT) Reference Document for the Textiles Indus, July 2003.

4 European Commission: Reference Document on Best Available Techniques in the Production of Polymers. August 2007; http://eippcb.jrc.es/reference/BREF/pol_bref_0807.pdf

5 Ullmann's Encyclopedia of Industrial Chemistry, Wiley online library. Copyright 1999-2012 by John Wiley and Sons, Inc.

6 European Commission 2009: Establishing the ecological criteria for the award of the Community Eco-label for copying and graphic paper, Commission Decision 2011/332/EU; <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:149:0012:0024:EN:PDF>

7 Ecolabelling 2008: Nordic Ecolabelling of sanitary products, Version 5.3; <http://www.nordic-ecolabel.org/criteria/product-groups/?p=3>

Criterion 1: Use of materials

1) Product Description

Rationale and technical feasibility:

Materials are the main contributors to the environmental impacts of AHPs. Some options have been evaluated to deal with the use of materials in the final product.

Option 1: Setting maximal weight thresholds

LCA evidence shows 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)			

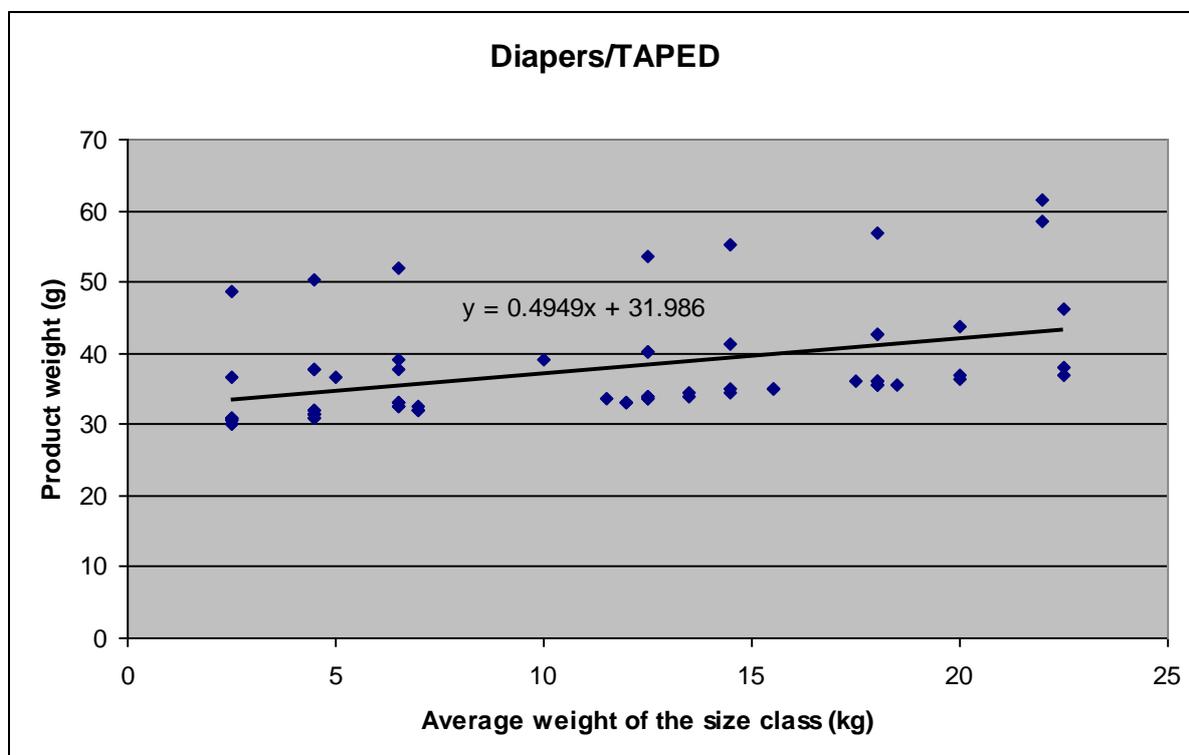
NIGHT DIAPERS	Size*		Source
	M	L	
KRUIDVAT	20-37	35-60	BE CB
HUGGIES	4-7 years	8-15 years	BE CB
* For each size the corresponding children weight range is reported in kg (when no unit of measure is provided)			

Even if classification is not harmonised between different producers, this 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 equation are considered to weight above the average and could be thus 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 generally perceived by stakeholders as an oversimplification of reality which does not take into full account for the design of products and which could thus limit innovation.

It was reported that producers are already efficient with the use of materials for economic reasons and that the market trend is towards lighter products.

Moreover, the lack of harmonization for the classification of the products appeared a significant bottleneck for the development of any prescriptions in this area. The work in this area could be easier for diapers but for feminine care products would be practically impossible due to the variety of size and materials.

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.

Some stakeholders support this option and ask for an additional effort in this direction. However, practical difficulties and limitations are apparent to all stakeholders and would prevent from setting such a requirement in the short term:

- Since reference to the entire product is necessary, information on the weight of products would be needed as for the previous option.
- Default values for setting GWP thresholds are provided for instance in the Nordic Swan set of criteria⁸, however, average market data would be needed.
- Product performance should be based on real data but it would be difficult to take into account for specificities existing in each supply chain and to assess and verify the robustness of the information provided.
- GWP is only one of the environmental indicators. The overall environmental performance of the product should be depicted considering also other key environmental impacts.

Option 3: Product description

Because of the current lack of data and harmonised classification, options described above cannot be taken into consideration in the short term. At this stage the best way to select the most environmentally friendly AHPs on the market is to rely on the other criteria outlined in the technical report. Since product design is the key factor influencing the environmental impacts of AHPs, this could be an issue to reconsider in next revision processes, possibly following a full LCA approach.

Nevertheless, for the moment it is considered important to include at least an introductory criterion fostering the definition of AHPs in terms of weights and contained materials, as done also for other product groups (e.g. Commission Decision of 30 November 2009 on establishing the ecological criteria for the award of the Community eco-label for wooden furniture⁹).

⁸ Ecolabelling 2008: Nordic Ecolabelling of sanitary products, Version 5.3; <http://www.nordic-ecolabel.org/criteria/product-groups/?p=3>

⁹ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:320:0023:0032:EN:PDF>

Criterion 2: Fluff pulp

2.1) 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 proposed has been based on that used for the EU Ecolabel criteria for Textiles¹⁰, where requirements for viscose have been intensively discussed and which were voted in November 2013. This represents the most recently updated criterion of the EU Ecolabel scheme in terms of pulp sourcing.

Approach:

- All pulp fibres shall be covered by valid sustainable forest management and chain of custody certificates issued by an independent third party certification.
- A minimum amount of pulp fibres shall be manufactured from wood that has been grown according to the principles of Sustainable Forestry Management as defined by the Food and Agriculture Organization of the United Nations ('UN FAO')¹¹, with the balance to 100% being legally sourced.

Stakeholders have been consulted to try to understand the availability of SFM certified wood for this product group. According to stakeholders involved in the project:

- The estimated proportion of total round wood production from certified forests in 2011-2012 was around 26%. This is considered to increase up to 28.3% in 2012-2013.
- Differently from graphic paper, fluff pulp is made of softwood. 90% of fluff pulp is produced in the USA. 96% of this pulp is procured through certified fibre sourcing and the amount of fibres from certified is 24%. By comparison, in Europe 61.6% of virgin wood fibres used by the industry is PEFC or SFC certified. The level of certified fibres in the USA is 24% and it would be difficult

¹⁰ <http://susproc.jrc.ec.europa.eu/textiles/stakeholders.html>

¹¹ Castaneda, F. Criteria and indicators for sustainable forestry management. UN FAO, <http://www.fao.org/docrep/x8080e/x8080e06.htm#TopOfPage>

to achieve a 50% level even in 2-5 years since the availability of certified wood is progressing slowly.

Based on the elements collected, it is proposed to set the threshold for SFM-certified wood fibres to 25%. Some stakeholders informed that US producers can respect Nordic Swan criteria for AHPs, but the threshold set there for SFM-certified fibres is 20%¹². The proposal is thus more ambitious than the current set of Nordic Swan criteria. The 25% threshold, moreover, is aligned with the requirement for viscose set for the EU Ecolabel on textiles.

It should be also underlined that this is only one of the requirements applied to fluff pulp. All together requirements for fluff pulp are considered to be strict to an appropriate level which would allow selecting better pulp suppliers on the market (30%, indicatively) and to achieve targeting, together with the other criteria, the top 10-20% products in terms of environmental performance. Nevertheless, this is the first generation of EU Ecolabel criteria for AHPs and stricter requirements could be considered in the next revision.

The accepted certification schemes cover FSC, PEFC and equivalent. According to experts in the area of forestry certification, this would not exclude SFI certificate holders as such but only those which do not comply with PEFC requirements. SFI is PEFC's largest member in terms of certified land and the only PEFC member which has its own Chain of Custody system and its own labels. PEFC has endorsed the SFI Forest Management standard but not the SFI Chain of Custody standard. Any company that sources timber from SFI-certified forests and would like to sell it as PEFC-certified or use the PEFC label needs to obtain PEFC Chain of Custody certification. SFI does not have a minimum of 70% certified/post-consumer reclaimed material content requirement for its labels and it also has a "fibre sourcing" certification, which looks similar to PEFC's controlled sources, but adds more procedural requirements.

Further elements have been introduced in the criterion text in order to align with the existing EU Ecolabel criteria for Copying and Graphic Paper¹³:

- The balance to 100% shall be covered by a verification system which ensures that it is legally sourced and meets any other requirement of the certification scheme with respect to uncertified materials.
- The certification bodies issuing forest and/or chain of custody certificates shall be accredited / recognised by that certification scheme.

2.2) Bleaching

Rationale and technical feasibility:

During the production of fluff pulp, negative effects on the environment and on human health, should be minimized. Until the early '90s, chlorine gas was used as the

¹² <http://www.nordic-ecolabel.org/criteria/product-groups/?p=3>

¹³ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:149:0012:0024:EN:PDF>

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 Copying and graphic paper (Commission Decision 2011/332/EU)¹⁴.

The limit value of 0.17 kg AOX/ADT is aligned with the Commission Decision 2011/332/EU. Industry reported that, differently from graphic paper, fluff pulp is made of softwood, which is more difficult to bleach. Stricter limit could be proposed for the next revision.

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

- Equivalent test method EPA 1650C should be accepted.
- Measurements should be taken on unfiltered and unsettled samples either after treatment at the plant or after treatment by a public treatment plant.
- The measurement period should be 12 months of production and measurements should be taken on a monthly basis from representative composite samples (24 hours composite).
- For 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, with the measurement being representative of the respective campaign.

It was also indicated to clarify in the user manual what is included within the definition of "new or re-built production plant".

2.3) Optical brighteners and colouring agents

Rationale and technical feasibility:

During the production of fluff pulp, negative effects on the environment and on human health should be minimised. Visual whitening and colouring agents are

¹⁴ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:149:0012:0024:EN:PDF>

proposed to be banned as they are not needed for this application. A similar prescription is present in the Nordic Swan criteria for sanitary products¹⁵ 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, these have been mentioned explicitly because it was asked to emphasize the restriction of this specific type of optical brighteners.

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

Rationale and technical feasibility:

During the production of fluff pulp, negative effects on the environment and on human health should be minimised. Requirements for emissions of COD and P to water and for emissions of S and NO_x to air from fluff pulp production are proposed as set in the EU Ecolabel criteria for copying and graphic paper (Commission Decision 2011/332/EU)¹⁶. However, in comparison with the Commission Decision 2011/332/EU, the assessment and verification procedure has been slightly modified because reported by stakeholders that:

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

In addition to this,

- Clarifications on wording for phosphorous emissions and allocation procedure have been made.
- Measurements for COD and P have been set on a monthly basis in accordance with what required for AOX measurement.

Changes to the allocation formula will not have major consequences. Before, the emission allocated to electricity (X%) were subtracted to the total emissions and the emissions to calculate emissions due to heating (100-X%). Now, emissions allocated to heat (100-X%) are calculated directly.

¹⁵ <http://www.nordic-ecolabel.org/criteria/product-groups/?p=3>

¹⁶ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:149:0012:0024:EN:PDF>

2.5) Emissions of CO₂ from production

Rationale and technical feasibility:

During the production of fluff pulp, negative effects on the environment and on human health should be minimised. Having a requirement on the emission of CO₂ is important because this is an indirect indicator of the consumption of energy from fossil fuels.

A threshold on the emissions of CO₂ from fossil sources of energy is proposed as set in the EU Ecolabel criteria for copying and graphic paper (Commission Decision 2011/332/EU)¹⁷. However, in comparison with the Commission Decision 2011/332/EU, the assessment and verification procedure has been slightly modified because reported by stakeholders 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".

The threshold has been discussed with stakeholders. Some stakeholders asked to keep it at 1100 kg/ADT, as required in the criteria for copying and graphic paper. Other stakeholders asked to decrease it at 100-200 kg/ADT because saying that the limit value set in copying and graphic paper refer to production of paper.

However, it was reported by stakeholders that, compared to paper, fluff pulp production presents an important drying process (the moisture content of fluff pulp must be 95%) that requires energy thus contributing to CO₂ emissions.

Fluff pulp is a specialty product whose production, and thus the level of emissions, can differ significantly from that of conventional paper grade pulp. Variations can occur also among different installations due to different specifics of the process and the produced amounts.

Additional investigation was thus carried out. Different species of tree are used in comparison with conventional paper grade pulp and 90% of fluff pulp used for adsorbent hygienic products comes from North America, where the indicative average emissions level could be considered equal to 450 kg CO₂/ADT (considering a grid electricity factor of 400 gCO₂/kWh, the same of the current criteria proposal). Information received from Scandinavian manufacturers shows that the emissions levels can be up to 180 kg CO₂/ADT for that typical area.

Based on the elements gathered, it is considered that an ambitious and proportionate threshold for fluff pulp could be sensibly set at 450 kg/ADT.

In case of lowering the values even more it is considered that the situation of not sufficient availability of fluff pulp for adsorbent hygienic products could occur and that trade barriers could be created.

All in all, the criteria strictness for fluff pulp should contribute to allow 10-20% of the product currently available on the market to award the Ecolabel.

¹⁷ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:149:0012:0024:EN:PDF>

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

3.1) Sourcing

Rationale and technical feasibility:

For pulp fibres made from wood rationale is described in criterion 2.1 for fluff pulp. Percentage of SFM-certified fibres has been aligned with the recently voted EU Ecolabel criteria for Textiles, where extensive discussion on dissolving pulp has been held. The presented value (25%) coincides with that currently proposed for fluff pulp after discussion with stakeholders.

For dissolving pulp produced from cotton rationale is described in criterion 4.1 for cotton.

3.2) Bleaching

Rationale and technical feasibility:

Rationale for this criterion is reported in the discussion of criterion 2.2 for fluff pulp. Wording and thresholds for dissolving pulp have been defined accordingly with the recently revised EU Ecolabel criteria for Textiles, where extensive discussion on dissolving pulp has been held. OX has been changed with OCI following the indications of the standard ISO 11480.

3.3) Optical brighteners and colouring agents

Rationale and technical feasibility:

Rationale for this criterion is reported in the discussion of criterion 2.3 for fluff pulp.

3.4) Production of fibres

Rationale and technical feasibility:

(a) 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).

The proposed wording is adapted from the recently revised EU Ecolabel criteria for Textiles, where extensive discussion on dissolving pulp has been held.

(b) During the production of viscose, negative effects on the environment and on health due to emissions should be minimized. Limit values for production of viscose staple fibres (and filaments) are suggested in the BREF documents on polymers¹⁸.

The previous proposal presented in April 2013 was setting requirements on:

- 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.

In accordance with the recently revised EU Ecolabel criteria for Textiles, where discussion with producer of man-made cellulose fibres already took place, values limits have been proposed only for the emissions of sulphur compounds to air from the viscose and from the modal fibres production process.

Some stakeholders involved in this project even proposed to implement requirements on:

- COD emissions (< 25 kg/ADT) or TOC emissions (< 9 kg/ADT) to wastewater
- Energy consumption.

However, alignment with the EU Ecolabel criteria for Textiles was considered the priority.

¹⁸ European Commission: Reference Document on Best Available Techniques in the Production of Polymers. August 2007;
http://eippcb.jrc.es/reference/BREF/pol_bref_0807.pdf

Criterion 4: Cotton and other natural cellulosic seed fibres

4.1) Sourcing and traceability

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 measures for the sustainable sourcing of cotton have been aligned as much as possible with the recently voted EU Ecolabel criteria for Textiles. Based on the consultation of the stakeholders involved in this project, the following elements have been recommended for the sourcing of the cotton used in AHP:

- Requiring that all the cotton used in AHPs comes from organic sources;
- Tracing cotton from the origin to the fabric/product manufacturing stage.

Compared with the EU Ecolabel criteria for textile products:

- The requirement regarding testing the presence of pesticides is not necessary because all the cotton used in AHPs has to be organic.
- Requirements on IPM cotton have been not introduced for AHP products because they were not considered necessary by stakeholders for this product group.

With respect to the use of organic cotton, stakeholders involved in this project reported that:

-
- Organic cotton used in AHP presents lower staple length and/or organic comber noils and is hardly in competition with textile grade cotton fibres. Requiring 100% organic cotton could strengthen the market for organic cotton.
 - Organic cotton represents only few per cent of the market (less than 1% in 2007/2008). Even with dramatic increases (+30%/year), it will be well below 10% of total global production in 2015 (in-house calculation).

However, given that cotton is used only in 20% of tampons, it is considered that a 100% threshold for organic cotton can be achieved without complications. This would even be equal to the threshold set in the Nordic Swan criteria for sanitary products.

4.2) Bleaching

Rationale and technical feasibility:

Rationale for this criterion is reported in the discussion of criterion 2.2 for fluff pulp.

4.3) Optical brighteners and colouring agents

Rationale and technical feasibility:

Rationale for this criterion is reported in the discussion of criterion 2.3 for fluff pulp.

Criterion 5: Plastic materials and Super Absorbent Polymers

Taking inspiration from the Commission Regulation (EU) No 10/2011 of 14 January 2011 on plastic materials and articles intended to come into contact with food¹⁹, the following definitions are proposed for the criteria on plastic materials and synthetic polymers:

- 'Bio-plastics' means plastic materials produced from renewable sources.
- 'Bio-polymers' means synthetic polymers produced from renewable sources.
- 'Bio-SAPs' means super absorbent polymers produced from renewable sources.
- 'Cellulose pulp' means a fibrous material obtained from the treatment of lignocellulosic materials (wood or other agricultural fiber sources) with one or more aqueous solutions of pulping and/or bleaching chemicals. This is composed of cellulose, hemi-cellulose, lignin, and other minor components. The relative amounts of these components depend on the extent of the pulping and bleaching processes.
- 'Plastic materials', also referred to as 'Plastics', means synthetic polymers to which additives or other substances may have been added which can be moulded and used as main structural component of final materials and articles.
- 'Synthetic polymers' means macromolecular substances other than cellulose pulp intentionally obtained either by:
 - A polymerisation process such as poly-addition or poly-condensation, or by any other similar process of monomers and other starting substances;
 - Chemical modification of natural or synthetic macromolecules;
 - Microbial fermentation.
- 'Super absorbent polymers (SAP)' means synthetic polymers designed for absorbing and retaining large amounts of liquid compared to their own mass.

5.1) Sourcing and production of synthetic polymers used in plastic materials

Rationale and technical feasibility:

(a) As described in the Preliminary report, plastics and SAPs represent a significant share of the weight of AHPs, with trends showing an increasing importance of this group of materials. The four most important synthetic polymers in terms of weight share are:

- Super-absorbent polymers (SAP),

¹⁹ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:012:0001:0089:EN:PDF>

-
- Polypropylene (PP),
 - Polyethylene (PE) and
 - Polyester (PET).

In addition to them, the non-exhaustive list of synthetic polymers that could be found in AHPs may for instance include:

- Polyurethane (PU)
- Polystyrene (PS),
- Elastane (lycra, spandex) and polymers based on renewable raw materials.

Possibilities for setting criteria on the sourcing and production of synthetic polymers are limited.

A criterion promoting the use of synthetic polymers based on renewable materials is present in the set of Nordic Swan criteria²⁰. For this product group there is an overall trend towards the introduction of polymers based on renewable materials, also named bio-polymers or bio-plastics in this context.

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, but this is not necessarily the case. Moreover, environmental trade-offs can be associated to the use of materials from renewable sources, such as the increased demand of land and water for the production of biomass. 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 and their market availability. The current market volume of bio-plastics is about 1-1.5% and it was reported by stakeholders that any forecast beyond 2016 is pure speculation. Requiring that a certain amount of plastic comes from renewable sources could exclude almost all the products on the market.

Spatial and technical differences between different bio-plastic production chains can result in a significantly complex range of environmental performances. From a theoretical point of view, sustainability of bio-polymers can be supported only if the environmental lifecycle performance of these materials is evaluated in comparison with conventional, petroleum-based polymers.

A working group (CEN TC 411 Biobased products WG4 Sustainability and LCA) is currently involved in the development of two standards, for assessing the sustainability of bio-based products and also for performing LCAs. According to the information reported by stakeholders, the standards would be ready by 2016.

²⁰ Ecolabelling 2008: Nordic Ecolabelling of sanitary products, Version 5.3; <http://www.nordic-ecolabel.org/criteria/product-groups/?p=3>

Based on these elements, it is not recommended that the promotion of bio-polymers is addressed in the current set of criteria.

Some criteria on plastic materials have been presented by the Australian Voluntary Environmental Labelling Standard for Nappy and Nappy Wipe Products²¹. According to this standard, the main requirements for plastics of potential interest for AHPs are:

- A threshold on the maximal emissions of SO₂ from the PE/PP manufacturing process (11 kg/tonne), production of energy from external sources excluded.
- A threshold on the maximal emissions of NO_x from the PE/PP manufacturing process (12 kg/tonne), production of energy from external sources excluded.
- No use of organic solvents for PE produced by fibre extrusions.

However, according to the stakeholders involved in the project, these requirements appear out-of-date.

Plastics Europe has recently developed updated eco-profiles for synthetic polymers typically used in products²²:

1. Polyolefin (PO) Family (including average data for PP from 28 sites, LDPE from 27 sites and HDPE from 24 sites)
2. PVC Family
3. PET Family (including average data for amorphous PET from 7 sites)
4. Acrylic Family
5. Styrenic Family (including average data for general purpose PS from 13 sites and high impact PS from 11 sites)
6. Polyamide (PA) Family
7. Epoxy Family
8. Polycarbonate (PC) Family
9. Polyurethane (PU) Family
10. On-site Energy
11. Other polymers, monomers & reactive precursors.

Eco-profiles represent Life Cycle Inventory datasets (LCI) and Environmental Product Declarations (EPD) for average synthetic polymers used in the product manufacturing. A methodology document has been also developed that provides guidelines for calculating the eco-profile of plastics according to Plastics Europe²³.

The following indicators are considered:

- Consumption of non-renewable materials
 - Minerals
 - Fossil fuels

21 http://www.geca.org.au/media/medialibrary/2012/08/GECA_29-2005_-_Nappy_and_Nappy_Wipe_Products_May_2012.pdf

22 <http://www.plasticseurope.org/plasticssustainability/eco-profiles/browse-by-family.aspx>

23 http://www.plasticseurope.org/documents/document/20110421141821-plasticseurope_eco-profile_methodology_version2-0_2011-04.pdf

- Uranium
- Renewable materials (biomass)
- Water use
- Non-renewable energy resources
 - Energy
 - Feedstock
- Renewable energy resources (biomass)
 - For energy
 - Feedstock
- Global Warming Potential
- Ozone Depletion Potential
- Acidification Potential
- Photochemical Ozone Creation Potential
- Nutrifical Potential
- Dust/particulate matter
- Total particulate matter
- Waste
 - Non-hazardous
 - Hazardous

According to the literature²⁴, sensitive variation of the environmental performance of polymers based on benzene and ethylene may be associated to the technological route follow for the synthesis of precursors. Based on this, it is proposed that the synthetic polymers must perform better than the average. Of all the indicators included in the eco-profile of Plastic Europe, GWP and energy demand have been selected as key indicator of screening. Average values provided by Plastic Europe are reported in the table below for synthetic polymers typically used in AHPs, and for which an eco-profile has been calculated. The list may be non-exhaustive. For PS, higher parameters have been considered to be appropriated given the uncertainty over the value declared by Plastic Europe.

Synthetic polymer	GWP (kg CO ₂ eq/kg)	Energy resources (MJ/kg, HHV)	
		Fuel energy	Feedstock
LDPE, resin	2.13	26.5	51.6
LLDPE, resin	1.89	24.1	48.6
HDPE, resin	1.96	22.5	54.3
PP, resin	2.00	20.8	52.6
PS, general purposes	2.25	36.48 (34.48 - 38.48)	46.3 (44.3 - 48.3)

It shall be declared that polymers listed in the table above and used in AHPs present cradle-to-gate emissions of greenhouse gases and demand of energy below the

²⁴ <http://conferences.chalmers.se/index.php/LCM/LCM2013/paper/view/691/289>

threshold set. Calculations shall be made according to ISO 14040/44, ISO 14025 and the guidelines provided by Plastic Europe in

- <http://www.plasticseurope.org/Documents/Document/20100312112214-PlasticsEuropeEPDProgrammeInstructions200709-20070620-006-EN-v1.pdf>
- http://www.plasticseurope.org/documents/document/20110421141821-plasticseurope_eco-profile_methodology_version2-0_2011-04.pdf.

Results will be third party reviewed according to ISO 14040/44, ISO 14025 and ISO/DTS 14071²⁵ and summarised in a concise technical report. Further guidance can be given in the User Manual.

This would represent a first step for the development of environmental criteria for plastics which could be developed further in the next revision of the criteria, also taking into account for the progresses of the Product Environmental Footprint²⁶.

(b) A series of additional measures is proposed to reduce the environmental impacts from the production of polymers. Measures have been identified through the critical screening of the Best Available Techniques (BAT) Reference Documents for Polymers. 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 with other 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.

²⁵ <http://conferences.chalmers.se/index.php/LCM/LCM2013/paper/download/531/132>

²⁶ http://ec.europa.eu/environment/eussd/smgp/product_footprint.htm

5.2) Additives in plastic materials

Rationale and technical feasibility:

The use of additives in plastic materials can contribute to the diffusion into the environment of hazardous substances and to the exposure to them. The aim of this requirement is to restrict the presence of hazardous additives used in plastic materials.

The first generation of this requirement takes inspiration from the EDANA's GPP guidelines Version 2008-11-06 (see Preliminary Report), which prescribed limitations in the content of heavy metals (cadmium, lead, mercury and chromium) and organotin compounds.

Heavy metals such as cadmium, lead, mercury and chromium are very persistent in the environment and hazardous for health and eco-systems.

Even if the use of these metals in plastic is regulated in the EU, cadmium, chromium and lead can still be found in products^{27 28 29}.

The use of Cadmium in the EU has been restricted in most of the plastics and further extensions are under evaluation^{30 31 32}.

A phase-out of lead is expected to take place in few years (by 2015)³³.

Plastic seems a potential application even for chromium-based compounds³⁴, while mercury seems not relevant, as expressed by the plastic industry association.

Moreover, based on the available information it cannot be excluded that extra-EU producers do not use these metals.

Restrictions on cadmium, lead and chromium VI are thus considered appropriated while that on mercury is preliminary put on hold.

The concentration limit is established with the idea that concentrations below 0.01% by weight (100 ppm) are considered as contaminants. By comparison, limit values of heavy metals proposed within the revision of EU Ecolabel criteria for Bed Mattresses and for Textiles are stricter.

27 <http://www.isca.in/IJENS/Archive/v1/i4/5.ISCA-IRJEvsS-2012-059.pdf>

28 <http://www.nnewh.org/images/upload/attach/2502NNEWH%20Lit%20Review%20-%20Chem%20Exp%20and%20Plastics%20Production.pdf>

29 <http://www.investteda.org/swhdfile/yth/a10.pdf>

30 <http://www.sciencedirect.com/science/article/pii/S0306374713700496#>

31 http://echa.europa.eu/documents/10162/13641/status_report_cd_in_plastics_second_en.pdf

32 <http://www.speciation.net/News/ECHA-requests-comments-on-expanding-REACH-restriction-on-the-use-of-cadmium-in-plastics-;/2013/02/04/6530.html>

33 <http://www.stabilisers.org/stabilisers-types/lead-stabilisers>

34

<http://www.bureauveritas.co.uk/wps/wcm/connect/b7ba3a004b31481fb6d9fe4611013ef8/ECHA+Candidate+List+Dec+2012.pdf?MOD=AJPERES>

Analysis of metals can be carried-out by:

- inductively coupled plasma optical emission spectrometry (ICP-OES), also known as inductively coupled plasma atomic emission spectrometry (ICP-AES);
- atomic absorption spectrometry using a hydride or cold vapour process;
- Inductively coupled plasma mass spectrometry (ICP-MS);
- X-Ray fluorescence analysis.

Organotin compounds include persistent and toxic substances. Some of them may also accumulate in living organisms, have endocrine disrupting properties and interfere with reproduction. Examples of organotin substances of concern are Tributyltin (TBT), Dibutyltin (DBT), Monobutyltin (MBT), Tetra-butyltin (TeBT), Mono-octyltin (MOT), Dioctyltin (DOT), Tricyclohexyltin (TcyT), Triphenyltin (TPhT).

Some stakeholders reported that organotin compounds were found in some AHPs marketed in Scandinavia and that for this reason a threshold of 100 ppm (0.01%) for trace elements was thus set in Nordic Swan.

According to a position paper from EDANA, organotin compounds are not used in the manufacture of absorbent hygiene products (AHP). Trace levels can be found in disposable diapers and feminine hygiene products but it is shown that these are far below levels which would constitute a safety threat to consumers. EDANA members have agreed that the maximum content of organotin compounds in AHPs is 2 ppb for TBT and 10 ppb each other organotin compounds, far below 100 ppm threshold.

The Swedish Chemicals Agency (KemI) has analysed eleven different types of diapers to see if they contain any prohibited organotin compounds³⁵. None of the analysed diapers contained tributyltin (TBT), dibutyltin (DBT) and dioctyltin (DOT) in concentrations above 0.1% by weight of tin. Restrictions on TBT, DBT and DOT are already in place under REACH.

Unless demonstrated that organotin compounds can be present in AHPs above 100 ppm, it is considered recommendable to put restrictions on organotin substances are preliminary on hold.

Apart from the elements reported, other additives can be used in plastic materials³⁶. For instance, polypropylene and polyethylene are sensitive to oxidation and requires antioxidants and UV-stabilisers^{37 38}.

Since level of hazard of additives can vary, a proposal for preventing the recurring of hazardous plastic additives is presented, taking inspiration from the SEMco procurement criteria for medical devices³⁹.

Additives intentionally used in plastics in concentration above 0.1% by weight shall not be classified, according to Regulation (EC) No 1272/2008 on classification,

35 <http://www.kemi.se/en/Content/News/No-organotin-compounds-found-in-diapers/>

36 http://www.accustandard.com/assets/PLASTIC_ADD_GUIDE_2013.pdf

37 Lithner, D.; Larsson, A. and Dave, G. (2011) Environmental and health hazard ranking and assessment of plastic polymers based on chemical composition. *Science of the Total Environment* 409 (2011) 3309-3324.

38 [http://www.clariant.com/C12576850036A6E9/9822A4522F11A69EC12579FF002E918E/\\$FILE/DA3100E%2010.10.pdf](http://www.clariant.com/C12576850036A6E9/9822A4522F11A69EC12579FF002E918E/$FILE/DA3100E%2010.10.pdf)

39 <http://www.msr.se/en/Home/Procurement/SEMCO-Procurement-criteria/Nursing-and-care/Dialysis/Consumables-for-haemodialysis/Environmentally-hazardous-plastic-additives-in-single-use-articles-tubing-and-connectors/>

labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 as:

- Carcinogenic, mutagenic or toxic for reproduction, categories 1a, 1b and 2 (H340, H350, H350i, H360F, H360D, H360FD, H360Fd, H360Df);
- Acutely toxic, categories 1 and 2 (H300, H310, H330, H304);
- Toxic to specific target organs (STOT), category 1: (H370, H372);
- hazardous to the aquatic environment, categories 1 and 2 (H400, H410, H411).

The applicant shall make suppliers to provide a declaration of non-use in conformity with ISO/IEC 17050, confirming that classified additives have not been intentionally used in the plastic material / synthetic polymer in concentrations above 0.01%. A list of added substances shall be also provided, including concentrations and related H statements/R phrases, supported by safety data sheets. In order to facilitate follow-up and monitoring of the documentation provided, a random sample of suppliers may be examined. The supplier shall provide access to production facilities, warehouses and the like. Confidentiality applies to any documentation and information submitted and shared.

Additional information on additives could be even found on a recent document reviewing the presence of hazardous substances in plastic materials⁴⁰.

5.3) Super Absorbent Polymers

Rationale and technical feasibility:

Concern on Super Absorbent Polymers is given by the release of residual monomers and by water-soluble extracts in case these present hazards.

In accordance with the Nordic Swan criteria for Sanitary Products, two prescriptions are proposed for residual monomers and water-soluble extracts⁴¹. These substances are even subject to the requirement of Article 6(6) of the Regulation (EC) No 66/2010.

The superabsorbent polymers industry reported that there is no evidence of risks due to residual monomers and water-soluble extracts. Sodium polyacrylate the super absorbent polymer commonly used for AHPs, is not typically classified as hazardous (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 Agency⁴²). The typical CAS number of sodium polyacrylate is 9003-04-7, indicatively representative for 90% of the market, but several variations (10-20) are available.

40 <http://www.miljodirektoratet.no/old/klif/publikasjoner/3017/ta3017.pdf>

41 <http://www.nordic-ecolabel.org/criteria/product-groups/?p=3>

42 <http://clp->

inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=59137&HarmOnly=no?fc=true&lang=en

However, it is considered important to keep this criterion for other super absorbent polymers that could be used in AHPs. To this purpose, the requirement has been revised based on the information received from stakeholders:

- Limit value for residual monomers has been set equal to 1000 ppm (0.1% by weight) as it is demonstrated that this is a safe threshold for sodium polyacrylate. Manufacturers have indicated that they have to mention residual monomers in the safety data sheet of the chemical product only if above 10000 ppm (1% by weight) and there is no evidence of negative effects up to that threshold. Moreover, from a technical point of view, a decrease of residual monomers would generally require increasing cross linking with consequent reduction of absorption properties and thus of the performance of the chemical. The requirement has been reinforced by requiring that monomers must not carry the H statements reported in criterion 7 on excluded or limited substances or mixtures.
- The threshold for water soluble extracts has been set equal to 10% in order to allow the use of superabsorbent polymers that performs better, which has led to a decrease of product weight and related impacts. As for residual monomers, indeed, a decrease of water soluble extracts would imply increasing cross-linking. In addition to that, there are everyday products on the market which contains superabsorbent polymers with a level of water soluble extracts up to 100% (e.g. in shampoo). The only presence of water soluble extracts does not imply the presence of a hazard. The requirement has been reinforced by requiring that water soluble extracts must respect criterion 7 on excluded or limited substances or mixtures.
- Salts are not relevant and do not count as extractable and reference should be made to the standard ISO 17190 and WSP 201 for residual monomers and ISO 17190 and WSP 270 for water soluble extracts.

In addition to the requirements above, it was recommended to ban explicitly the use acrylic amide (CAS number 79-06-1), for which several patents have been developed in the last decade. This carries 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). It is implicit that this and any other SAPs used in the product shall also respect criterion 7 on excluded or limited substances or mixtures.

Criterion 6: Other materials and components

6.1) Adhesive materials

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 Products⁴³. However, in this context reference has been made to the CAS numbers of the restricted colophony resins, in analogy with the EDANA's GPP guidelines Version 2008-11-06 and with the Swedish Environmental Management Council procurement criteria for incontinence and urology products Version 2.1 (see Preliminary Report).

Reference to the phthalates potentially used in adhesive applications has been also made: DIBP and DINP.

6.2) Inks and dyes

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 Products⁴⁴. However, some clarification has been made on special cases where the use of inks and dyes is allowed. For inks and dyes is also considered important to underline that they shall have to comply with Criterion 7 on Excluded or limited substances or mixtures.

6.3) Fragrances

Rationale and technical feasibility

The International Fragrances Association (IFRA) published a list of ingredients contained in fragrances that they consider safe for human health and the

⁴³ <http://www.nordic-ecolabel.org/criteria/product-groups/?p=3>

⁴⁴ <http://www.nordic-ecolabel.org/criteria/product-groups/?p=3>

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 Program⁴⁵.

IFRA compliant fragrances may be contained in some AHPs for woman. For example, feminine care pads may be scented in order to increase the sensation of freshness. The benefit of choice should be given to consumers if the substance used has been proved to be safe.

Although the environmental impacts associated with fragrances can be considered low, these substances may still contribute to environmental and/or health concerns. For this reason, several restrictions have been proposed to ensure highest consumer protection.

First of all, it is proposed to introduce a new restriction on the use of fragrances in products which are intended for babies and children (as defined by the United Nations Convention on the Rights of the Child⁴⁶), in accordance with the feedback received from stakeholders. 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.

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.

The same requirement shall apply to tampons and nursing pads.

Beside this, it is required that fragrances used in the product shall comply with Criterion 7 on Excluded or limited substances or mixtures.

Moreover, In 1999, the Scientific Committee on Cosmetic Products and Non Food Products intended for Consumers (SCCPNFP), based on dermatological data reflecting the clinical experience, identified and prepared a list of 26 fragrance allergens with a well-recognised potential to cause allergy, for which information should be provided to consumers about their presence in cosmetic products. They were divided into two lists (see also below tables):

- list A – indicating the most frequently reported and well recognized contact allergens,

⁴⁵ IFRA (2010): List of ingredients in fragrances. Available online: <http://www.ifraorg.org/en-us/Ingredients>

⁴⁶ For details please see: <http://www.unicef.org.uk/UNICEFs-Work/Our-mission/UN-Convention/>.

- list B – indicating fragrances less documented as consumer allergens.

Fragrance chemicals frequently reported as contact allergens.

Common name	CAS No
Amyl cinnamal	122-40-7
Amylcinnamyl alcohol	101-85-9
Benzyl alcohol	100-51-6
Benzyl salicylate	118-58-1
Cinnamyl alcohol	104-54-1
Cinnamal	104-55-2
Citral	5392-40-5
Coumarin	91-64-5
Eugenol	97-53-0
Geraniol	106-24-1
Hydroxycitronellal	107-75-5
Hydroxymethylpentylcyclohexenecarboxaldehyde	31906-04-4
Isoeugenol	97-54-1

Source: SCCPNFP, 1999

Fragrance chemicals less frequently reported as consumer allergens

Common name	CAS no
Anisyl alcohol	105-13-5
Benzyl benzoate	120-51-4
Benzyl cinnamate	103-41-3
Citronellol	106-22-9
Farnesol	4602-84-0
Hexyl cinnamaldehyde	101-86-0
Lilial	80-54-6
d-Limonene	5989-27-5
Linalool	78-70-6
Methyl heptine carbonate	111-12-6
3-Methyl-4-(2,6,6-trimethyl-2-cyclohexe-1-yl)-3-buten-2-one (= γ -methylionone)	127-51-5

Source: SCCNFP, 1999

Beside the above given, two fragrances (natural mixtures) were added to the previously described list:

-
- Oak moss (90028-68-5)⁴⁷
 - Tree moss (90028-67-4)⁴⁸

All these 26 fragrances were introduced into Annex III of the Cosmetics Directive by the 7th amendment (2003/15/EC) and they must be labelled when present in cosmetic products under certain conditions.

In June 2012 the Scientific Committee on Consumer Safety (SCCS) issued a new opinion on "Fragrance allergens in cosmetic products"⁴⁹. It confirmed that contact allergy to fragrances may develop due to skin contact with a sufficient amount of such substances, among other through the use of cosmetics. The revision of the SCCNFP Opinion on fragrance allergy in consumers from 1999 confirmed that the findings of this report are still valid. It has also been stated that based on the review of the recent clinical and experimental studies more fragrance substances have been identified to have sensitising properties for humans. The analysis showed that 82 substances could be classified as established contact allergens in humans. Among them there are 54 single chemicals and 28 natural extracts (12 chemicals and 8 natural extracts thereof were found to pose a high risk of sensitisation⁵⁰).

Due to the nature of the product and prolonged exposure it is proposed to:

- Exclude the 26 fragrances included in the Annex III of the Cosmetic Products Regulation 1223/2009 which require labelling and those which were identified as sensitizers of special concern in the SCCS opinion from 2012. The later proposal is aligned with the criterion proposed in the 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).
- Require to name on the packaging both fragrances which are not excluded by the above requirements and also fragrances / ingredients identified as established contact allergens in humans in the SCCS opinion from 2012.

6.4) Lotions

Rationale and technical feasibility

Lotions may be contained in some AHPs example, for instance baby diapers to provide extra protection against skin rash. The benefit of choice should be given to consumers if the substance used has been proved to be safe. For this reason, the

⁴⁷ Chloroantranol is the allergen constituent in tree moss (*Evernia furfuracea*).

⁴⁸ Atranol is the allergen constituent in oak moss (*Evernia prunastri*).

⁴⁹ Scientific Committee on Consumer Safety SCCS Opinion on fragrance allergens in cosmetic products, 2012, available online at: http://ec.europa.eu/health/scientific_committees/consumer_safety/docs/sccs_o_102.pdf.

⁵⁰ For details please see Table 13-1 and 13-5 of the Scientific Committee on Consumer Safety SCCS Opinion on fragrance allergens in cosmetic products, 2012, available online at: http://ec.europa.eu/health/scientific_committees/consumer_safety/docs/sccs_o_102.pdf.

packaging should state which 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.

Because the lotions are applied either to babies and small children or in case of adults – are in contact with sensitive body parts it is considered that strict requirements shall be met regarding substances of concern used in these products. Therefore, and following the rationale of the equivalent ecolabel criterion in the product group of rinse-off cosmetics, restrictions are proposed for use of fragrances and preservatives (triclosan, parabens, formaldehyde and formaldehyde releasers) in lotions used in AHP. The extensive technical information on the rationale of restriction for these substances is provided in the report of the revision of 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) in the part regarding specific substances restrictions⁵¹..

6.5) Silicone

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. It is possible that an increase in protection mechanisms is accompanied by additional costs.

6.6) Nanosilver particles

Rationale and technical feasibility

Some products have been found advertising the use of nanosilver in AHPs⁵²

Silver nanoparticles are added to a variety of every day products as an antimicrobial. Although silver has been used safely for centuries, some people question whether the rapid expansion of new exposure sources to nanosilver could have adverse

⁵¹ For further information please see the revised criteria proposal (Criterion 3(a)) and technical Background Report (pp. 45-59) for this revision; available online at:

http://susproc.jrc.ec.europa.eu/soaps_and_shampoos/stakeholders.html.

⁵² <http://www.fohow.com/index.php/Products/detail/id/44/1/en/>

consequences⁵³. Some concerns related to the use of nanosilver because of its potential capability of promoting the antibiotic resistance of bacteria.

Additional research⁵⁴ shows that silver nanoparticles can be absorbed via all routes of exposure (oral dermal and inhalation). However, it is unclear in which form (as particles, free ions, silver ions or complexes) nanosilver is absorbed and distributed to target organs. At least for uptake via the oral route it is likely that at least some of the uptake occurs as ions. It appears that smaller particles exhibit higher toxicity as compared to larger particles; and if silver is absorbed as particles then the surface area is relevant.

Silver is known to be an ecotoxic metal and tests with silver nanoparticles (AgNP) do also reveal very low effect concentrations. Thus, for algae EC50-values as low as 4 µg/l have been found and also for crustaceans values far below 1 mg/l has been reported. This ranks AgNP as very toxic towards aquatic organisms. It is also important to note that at concentrations below 1 mg/l inhibition of nitrifying bacteria can occur and thus the function of wastewater treatment plants may be affected by the presence of AgNP. Possibly significant environmental effects arising from interactions with symbiotic bacteria present in organisms and in soil have also been documented.

The environmental concentration resulting from the use of AgNP in consumer products are at present uncertain, even though a number of different estimates have been proposed. Even low concentrations of the substances may constitute an environmental risk due to the high toxicity of silver.

It is debated today whether silver nanoparticles are in fact more toxic than their bulk counterpart, since effects in many cases can be ascribed to the ionic form of silver (Ag⁺). Some studies have documented a higher toxic effect from AgNP, however, even if AgNP are “only” as toxic as larger silver particles, silver is still a very ecotoxic metal.

Because of the uncertain consequences associated to a widespread use of nanosilver, with some indications suggesting the risk of promoting the antibiotic resistance of bacteria, and the potential hazards associated to the use of silver particles, a restriction on the use of nanosilver particles in AHPs is preliminarily proposed.

⁵³ <http://ehp.niehs.nih.gov/121-a220/>

⁵⁴ Mikkelsen, S.H.; Hansen, E.; Christensen, T.B.; Baun, A.; Hansen, S.F.; Binderup, M.-L.; 2011. *Survey on basic knowledge about exposure and potential environmental and health risks for selected nanomaterials*. Environmental Project No. 1370, The Danish Environmental Protection Agency, Copenhagen.

4.2 Chemicals

Criterion 7: Excluded or limited substances or mixtures

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 the table inserted in the proposed criterion). 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 0.10% 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>.

It has been explored if a derogation for sodium polyacrylates, the super absorbent polymer typically used for AHPs, was to be examined. Preliminary investigation indicates that sodium polyacrylates is classified as H412 – "Harmful to aquatic life with long lasting effects" – only in 1 out of 223 notifications received by the European Chemicals Agency⁵⁵. Based on this, no derogation has appeared necessary for this material.

The text of the presented criterion has been adapted from the one used for Bed Mattresses within the EU Ecolabel scheme. In addition to this overarching restriction of substances, further requirements for specific groups of substances/uses of substances have been proposed in the previous requirements on materials.

⁵⁵ <http://clp-inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=59137&HarmOnly=no?fc=true&lang=en>

4.3 Manufacture of AHPs

Criterion 8: Material efficiency in the manufacturing

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. A requirement has been set in accordance with the Nordic Swan criteria for Sanitary Products⁵⁶.

⁵⁶ <http://www.nordic-ecolabel.org/criteria/product-groups/?p=3>

4.4 End of Life

Criterion 9: Guidance on the product disposal

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 not to be flushed into the toilet but disposed correctly. 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

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, manufacturers should provide evidence that the products registered for the EU Ecolabel fulfil an adequate level of quality and 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 also resort to consumer panel tests. 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.

Applicants should ensure the quality of the product by performing both consumer and technical tests for limited number of key performance characteristics, identified with the help of stakeholders and reported in the table inserted in the criterion proposal.

According to the stakeholders of the project, there is no need to perform additional safety tests since the products meet the General Product Safety Directive and the REACH Directive. A declaration from the manufacturer that it complies with the Good Manufacturing Practices (GMP) should guarantee the quality of the product.

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 point for designing a criterion of fitness-for.-use. While guidelines seem to refer to the comparison between products of different brands, the interest here is more on evaluating the performance of a single product, possibly against performance benchmarks. Thus, EDANA's guidelines have been adapted to the needs of the EU Ecolabel scheme. In addition, also the standards AFNOR Q 34-019 has been taken into account for drafting the criterion proposal.

A description of the main functionalities of AHPs and typical industry practices for those performance characteristics is reported below.

Overall performance

According to stakeholders, the assessment of the overall performance of AHPs can be achieved only through consumer tests. The interaction of different features of AHPs (e.g. fit, breathability, fluid acquisition, rewet or bowel movement absorption in case of diapers) is indeed 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 possibly should be at least one week long in the case of diapers.

Mixed views were provided by the stakeholders with respect to the number of participants to be involved in the test. Some stakeholders stated that the test should involve at least 100 test participants, representative of the market population. Other stakeholders believe that 30-40 is a more reasonable number.

Additional guidelines for user tests are available for instance in:

- 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".
- The French Standard AFNOR Q34-019.

For instance, it could be asked consumers to evaluate AHPs with a rating scale from 1 to 100 (10-20 = very bad performance; 30-40 = bad performance; 50-60 = average performance; 70-80 = good performance; 90-100 = very good performance).

The assessment of the overall performance through consumer tests is considered of relevance for all the AHPs within the scope. Based on consultation with stakeholders, a satisfactory product should receive a score of at least 60 from 80% or more of the consumers tested.

The assessment and verification procedure described in the criterion addresses some practical issues related to the flexibility of the test, the representativeness of the sample of consumers and on the reliability of the results through independent assessment.

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

Absorption and leakage protection

The absorption capacity generally describes the amount of liquid that can be absorbed by the product. Stakeholders involved in this project commented that absorption capacity under pressure is a generic testing concept that should not be assessed versus a maximum 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.

Testing of the leakage protection is of key relevance for stakeholders. This is closely related to the moisture retention as it determines how well an AHP can hold a liquid without releasing it

For diapers, the most reliable test method to assess the leakage protection of the product is to perform a consumer test and to register the occurrence of leakage after each diaper change, similarly as described previously. 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. The leakage performance could be alternatively rated after 1 week of usage. According to stakeholders, best performing diapers could be selected as those for which leakage occurs in less than 5% of all product changes.

The assessment of leakage protection through consumer tests is considered of relevance for all the AHPs within the scope with the exception of light panty liners.

Typical test methods correlated to leakage protection in diapers have been also identified by stakeholders: measurement of absorption before leakage and speed of absorption.

The absorption before leakage (ABL) test has been developed by the independent test lab "Courtray's labservice"⁵⁷ 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 test follows the test method WSP 354.0 (08) and was published by EDANA, INDA and Worldwide Strategic Partners in 2008⁵⁸. The new EDANA recommended method is the WSP 354.1 (11)⁵⁹.

The speed of absorption 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, when there is the highest need for good performance). However, no harmonized methods are yet available.

The standard ISO 11948⁶⁰ "Urine-absorbing aids - Part 1: Whole-product testing" is instead not considered adequate since it prescribes testing without applied pressure. The absorption capacity under a given pressure would be considered more suitable (e.g. the test method MDT 10301).

For tampons, a specific test method exists that was developed by EDANA, i.e. WSP 350.1 (05)⁶¹. The method specifies a test procedure for the in-vitro measurement of

57 Courtray Consulting 2012. Webpage: <http://www.courtrayconsulting.fr/courtray-consulting.htm>

58 Inda, Worldwide Strategic Partners, EDANA 2008. Standard Test Methods for the Non-wovens and related Industries. Available online: <http://www.btraIndia.com/downloads/inda.pdf>

59 <http://www.edana.org/discover-nonwovens/test-methods/abl-test-method>

60 ISO 11948: 1996. Urine-absorbing aids - Part 1: Whole-product testing

61 EDANA 2002; Tampons Absorbency Test Method; http://www.ahpma.co.uk/docs/EDANA_Synqina2.pdf; accessed 27.04.2012

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 Tampon⁶² 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.

The assessment and verification procedure described in the criterion addresses some practical issues related to the flexibility of the test, the representativeness of the sample of consumers and on the reliability of the results through independent assessment.

Skin dryness

Skin dryness generally refers to the capability of AHPs to keep liquids away from skin membranes, avoiding skin irritation.

One particularly relevant test method for diaper is the clinical skin hydration measurements using "trans-epidermal water loss" (TEWL) measurements⁶³. 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 should 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

62 Code of Practice for Tampons. Available online: <http://www.edana.org/docs/default-source/default-document-library/tampons-code-of-practice-%28english%29.pdf?sfvrsn=0>

63 Fader, M. et al 2011. Development and preliminary testing of a standardized method for quantifying excess water in over-hydrated skin using evaporimetry. Available online: <http://discovery.ucl.ac.uk/1345495/>

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 measured at a specific time after the AHP has been removed from the skin. The research lab 'dermatest' provides further details on the test method⁶⁴.

The assessment of skin dryness is considered of relevance for all the AHPs within the scope with the exception of tampons.

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.

Additional performance characteristics

Some additional performance characteristics have been mentioned by some stakeholders like odour control and dermatological testing. However, these characteristics have not been included in the criterion above because not forming part of the "EDANA Guideline for the testing of baby diapers", which was largely used as reference to draft this criterion, or generally considered of less relevance compared to those previously described.

The standard EN 13725 has been indicated as method for determining the odour concentrations being released by products. Details can be found in the respective Standard⁶⁵.

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 made⁶⁶.

A specific test method for superabsorbent materials, i.e. WSP 241.2 (05), is reported in the Inda/EDANA report⁶⁷. 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

64 Dermatest 2012. Corneometry. Webpage: <http://www.dermatest.de/english/services/measuring-techniques/corneometry.html>

65 <http://www.cen.eu/CEN/news/pressreleases/Pages/odours.aspx>

66 <http://www.dailymail.co.uk/femail/article-207747/Confusion-beauty-claims.html>

67 Courtray Consulting 2012. Webpage: <http://www.courtrayconsulting.fr/courtray-consulting.htm>

67 Inda, Worldwide Strategic Partners, EDANA 2008. Standard Test Methods for the Non-wovens and related Industries.

Available online: <http://www.btraindia.com/downloads/inda.pdf>

characterizing polymer-based absorbent materials - Part 6: Gravimetric determination of fluid retention capacity in saline solution after centrifugation.⁶⁸ An absorption under pressure test method also exists for superabsorbent materials, i.e. WSP 242.2 (05).

The evaluation of closure/fastening systems, based on the measurement of the tensile strength of tapes and elastics, has been also mentioned by some stakeholders.

⁶⁸ ISO 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.

4.6 Other issues considered

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

1. The consideration of social aspects.
2. The information appearing in the EU Ecolabel.

Criterion 11: Social aspects

Rationale and technical feasibility

A safeguard requirement ensuring that Ecolabelled products are produced with respect to principal rights of workers is considered for necessary and reflects Ecolabel Regulation Article 6.3.c. The reference for the proposed requirement are the fundamental rights principles and rights as reported by the International Labour Organisation.

The International Labour Organization (ILO) is a United Nations agency devoted to promoting social justice and internationally recognized human and labour rights. The ILO helps advance the creation of decent work and economic and working conditions for all⁶⁹.

The International Labour Organization has maintained and developed a system of international labour standards⁷⁰. International labour standards are legal instruments drawn up by the ILO's constituents (governments, employers and workers) and setting out basic principles and rights at work. They are either

- Conventions, which are legally binding international treaties that may be ratified by member states, or
- Recommendations, which serve as non-binding guidelines.

In many cases, a convention lays down the basic principles to be implemented by ratifying countries, while a related recommendation supplements the convention by providing more detailed guidelines on how it could be applied. Recommendations can also be autonomous, i.e. not linked to any convention.

When a convention comes into force, it creates a legal obligation for ratifying nations to apply its provisions. Conventions that have not been ratified by member states have the same legal force as do recommendations.

The list of International Labour Organization Conventions includes 190 standards, 8 of them identified as "fundamental" conventions because covering subjects that are considered as fundamental principles and rights at work:

- Forced Labour Convention, 1930 (No. 29)
- Freedom of Association and Protection of the Right to Organise Convention, 1948 (No. 87)

69 <http://www.ilo.org/global/about-the-ilo/lang--en/index.htm>

70 <http://www.ilo.org/global/standards/introduction-to-international-labour-standards/conventions-and-recommendations/lang--en/index.htm>

-
- Right to Organise and Collective Bargaining Convention, 1949 (No. 98)
 - Equal Remuneration Convention, 1951 (No. 100)
 - Abolition of Forced Labour Convention, 1957 (No. 105)
 - Discrimination (Employment and Occupation) Convention, 1958 (No. 111)
 - Minimum Age Convention, 1973 (No. 138)
 - Worst Forms of Child Labour Convention, 1999 (No. 182)

In 1995, the ILO launched a campaign to achieve universal ratification of these eight conventions. It has been estimated that 86% of the possible number of ratifications has been achieved.

According to stakeholders, the US has only ratified two of these: Convention 87 and Convention 98. Other countries (e.g., Brazil, China, Canada, India & Mexico) have chosen to ratify only some of the conventions. In some of those countries, the laws conflict with certain aspects of these Core Conventions.

The United States Council for International Business (“USCIB”), which represents businesses on the President’s Committee on the ILO and the Tripartite Advisory Panel on International Labor Standards, is a leading authority on how the ILO Conventions conflict with United States law and practice. According to the USCIB, five of the ILO Core Conventions (Conventions 87, 98, 29, 138, and 100) have been found to conflict directly with United States law and practice and would require significant and widespread changes to state and federal law if they were ratified.

Fundamental conventions are covered in the ILO’s Declaration on Fundamental Principles and Rights at Work (1998)⁷¹. This is an expression of commitment by governments, employers’ and workers’ organizations to uphold basic human values:

- Freedom of association and the effective recognition of the right to collective bargaining
- Elimination of all forms of forced or compulsory labour
- Effective abolition of child labour
- Elimination of discrimination in respect of employment and occupation

According to stakeholders, the United States and the other above mentioned countries have ratified the Declaration.

The proposed version of the criterion on social aspect has been discussed at the EUEB level in 2013 during the development of the EU Ecolabel criteria for different product groups and especially for textiles and it is considered to be workable. The aim of the criterion is not to set mandatory rules that can have an impact on the legislation system of single countries, but rather to set guidelines to verify that minimum labour standard requirements have been fulfilled by companies applying for the EU Ecolabel, independently from national laws that be in force and, depending on the country, may not provide a high level of protection for workers. Respect of these fundamental labour standards (e.g. no exploitation of child labour force) is not considered to go against national legislation. Moreover, an additional convention has been included: Occupational safety and health (No 155).

⁷¹ <http://www.ilo.org/declaration/lang--en/index.htm>

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. Complementary to this and in order to reduce administrative burdens, provisions will be taken in case relevant ILO Core Labour Standards are applicable by national laws (as it is the case in many countries within and beyond the EU-28). With this regard, it is proposed that a regulatory inspection that covers among others these aspects and that took place within the last 2 years can be accepted for the verification of compliance to this criterion. Further guidance on this will be provided in the Ecolabel criteria user manual.

Further, as it may be difficult for the competent bodies to evaluate documentation or to evaluate findings from audits, one possibility to consider could even be to rely on recognised third-party assurance schemes, such as:

- 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.

Criterion 12: Information appearing on the EU Ecolabel

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, three possible sentences have been identified:

- 'Reduced impacts from consumption of resources';
- 'Restricted use of hazardous substances';
- 'Performance and quality tests satisfied'.

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.

4.7 Other issues not considered

Life Cycle Assessment

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 methodology⁷² 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 Label⁷³. 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.

Energy use during the production of fluff pulp

During the production of fluff pulp, negative effects on the environment and on human health should be minimised. Requirements for energy consumption are prescribed in the EU Ecolabel criteria for copying and graphic paper (Commission Decision 2011/332/EU)⁷⁴ and have been discussed with stakeholders.

Energy requirements have been withdrawn to simplify the set of criteria and considering that

⁷² http://ec.europa.eu/environment/eussd/smgp/product_footprint.htm

⁷³ Carbon Trust Certification 2012. Build your brand's reputation with the Carbon Reduction Label. Available online: <http://www.carbontrustcertification.com/page?pageid=a04D000000J8lklAF>

⁷⁴ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:149:0012:0024:EN:PDF>

- Emission of CO2 is an indirect indicator of consumption of fossil energy.
- There are controversial issues related to the criteria on energy set in Copying and Graphic Paper that would need to be discussed at the next revision of the paper products.

The last version of the requirement, as discussed with stakeholders, is reported below. In particular, it is considered that the factor 1.25 for deducing the internally generated electricity from co-generation can make sense considering:

- A ratio heat to power of 1.35;
- 35% for electricity conversion;
- 80% for heat conversion.

However, if requirements in this area have to be set, these should refer to primary energy, or total consumption of final energy and not to be split between electricity and fuel. Moreover, also renewability should be taken into account. These are issues to consider in the next revision of the paper products.

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:

$$E_{pulp,i} = \text{Purchased electricity} (+ \text{Internally produced electricity} - \text{sold electricity})$$

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

$$F_{pulp,i} = \text{Purchased fuel} (+ \text{Internally produced fuel} - \text{sold fuel} - 1.25 \times \text{internally produced electricity})$$

$F_{pulp,i}$ (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
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. 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.

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 have been probably the most effective measure to select more eco-friendly products on the market. However, setting some requirements on product design is considered unfeasible at the moment because of the lack of data for setting environmental thresholds. Nevertheless, proposals covers all the main aspect related to materials: product description, fluff pulp, man-made fibres, cotton, plastics and synthetic polymers, substances added to the final product.

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. However environmental impacts associated with the production and the disposal of AHPs are smaller compared to the production of materials (see Section 4.3 and Section 4.4).

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.

ANNEX 1: Table of Comments received before 31 August 2013

Issue/Criteria	Comments	Action
Scope	The EU Ecolabel should be awarded to specific products (e.g. Maxi diaper - Size 2)	<p>Based on the feedback received by stakeholders, it is generally agreed that products with specific design and size (e.g. a size-4 pull-on diaper produced by the company X) should be awarded the EU Ecolabel. This option is also considered to allow some flexibility to producers.</p> <p>The other alternatives discussed were assigning the EU Ecolabel to:</p> <ul style="list-style-type: none"> • Products with the same design (e.g. all the pull-on diapers of the same product line produced by the company X). • Combination of products fulfilling a certain function (e.g. all the types of diapers produced by company X and used during the diapering period).
General	The aim of the EU Ecolabel is to target 10-20% of a certain product group. This must be reflected carefully in the individual criteria. If each criteria is set to reflect the performance of the top 10-20% products on the market, there will be probably only few products, if any at all, that can fulfill the full set of criteria.	Thresholds of each criterion will be defined to target as accurate as possible the 10-20% most environmentally friendly products.
Use of materials	<i>Thresholds on fluff pulp</i> Restrictions on fluff pulp are not considered appropriate. This is a renewable material and the increased use of SAP in place of fluff pulp could prolong the diapering period because of increased comfort.	Restriction on fluff pulp content has been withdrawn in order to leave freedom of product design to manufacturers. No supporting documentation has been found that an increased use of SAP in place of fluff pulp could prolong the diapering period because of increased comfort.
	<i>Weight/environmental thresholds</i>	Considering practical limitations for setting requirements in

	<ol style="list-style-type: none"> 1. The most reasonable solution is to not have any criteria for the use of materials. Materials are expensive and there is an inherent drive to use materials as efficiently as possible. Market trend is towards thinner and lighter products. 2. 50-80% of GHG emissions depend on the product weight. This is the most simple indicator for monitoring the environmental performance of this product. Alternatively, it could be required to provide data on weight and GWP without setting any thresholds. 	<p>this important area, the proposal has been withdrawn. This could be considered in the next revision process. The criterion has been replaced with a proposal of reporting the description of the product.</p>
Fluff pulp	<p><i>EU vs. USA</i></p> <p>No distinction between USA and EU should be made. Certified pulp in the USA is relatively limited but increasing. Significant increase can be achieved in 6-12 months. There are Nordic Swan licence holders that use certified pulp from the USA.</p>	<p>No distinction has been made.</p> <p>Nordic Swan set minimal thresholds on certified pulp sourcing at 20%.</p>
- Sourcing	<p><i>Sourcing – wording</i></p> <p>The criterion for Copying and Graphic Paper can be used as reference point for the wording to use for this requirement.</p> <p><i>Sourcing – chain of custody</i></p> <p>100% of the fibres should be covered by a chain of custody certification (e.g. the FSC controlled wood standards and PEFC)</p> <p><i>Sourcing – SFM certification</i></p> <ol style="list-style-type: none"> 1. 100% SFM certification should be required. Requirements should be at least in line with FSC and PEFC. 2. The EU Ecolabel should not allow more than 30% of uncertified material. If not possible now, 100% should be the target to respect by 2020 as required in the EU Biodiversity Strategy. 3. 50% certified pulp should be required in comparison with Copying and Graphic Paper. Credit systems are used for 	<p>Wording of the criterion has been based on that used in the EU Ecolabel for Copying and Graphic Paper and on that used in the most recent EU Ecolabel for Textiles.</p> <p>The current proposal is in line with the comment.</p> <p>Considering the information reported, is considered wise to set the threshold to 25%. This can be increased in the next revision.</p>

both FSC and PEFC so that customers can get from 0-100% certified pulp according to agreement with the suppliers.

4. The estimated proportion of total round wood production from certified forests in 2011-2012 was around 26%. This is considered to increase up to 28.3% in 2012-2013.
5. 90% of fluff pulp is produced in the USA. 96% of pulp is procured through certified fibre sourcing and the amount of fibres from certified forestland (SFI, PEFC, SFI) is 24%. By comparison, in Europe 61.6% of virgin wood fibres used by the industry is PEFC or SFC certified. The level of certified fibres in the US is 24% and it would be difficult to achieve a 50% level even in 2-5 years since the availability of certified wood is progressing slowly. 25% wood fibres should be certified as SFI, PEFC, FSC (to be increased at the next revision)
6. The threshold of certified fibres should not be raised above 20% because this is only one of the requirements that mutually contribute to identify the best 10-20% of the market in terms of environmental performance.

Sourcing – Certification schemes

1. SFI requirements are weaker than those of FSC and PEFC. SFI requires only 10% of wood from SMF.
2. 90% of the fluff pulp is produced in the US where SFI is the forest certification standard. SFI is endorsed by PEFC. SFI labelling rules are different from FSC and PEFC but it should be accepted.
3. The Canadian system for certified forest management should be also accepted
4. It would be preferable to avoid constraints that may favour

As done in the EU Ecolabel for Copying and Graphic Paper and on that used in the most recent EU Ecolabel for Textiles, FSC, PEFC and PEFC endorsed schemes are accepted.

	<p>one certification scheme rather than others.</p> <p><i>Sourcing – Legal sourcing</i></p> <ol style="list-style-type: none"> 1. The EU Timber Regulation applies from 3 March 2013 so that requirements for legal forestry are not needed since the trade into the EU of illegally harvested wood products is already illegal. 2. Pulp fibres that do not originate from sustainable managed forests should come from legal sources as an extra support to the EU Timber Regulation. 3. Further to that, additional guarantees are needed to ensure that pulp will not originate from other controversial sources beyond illegal sources. It would be convenient to further specify the list of controversial sources (perhaps in the user manual, as done for the EU Ecolabel for Wood Furniture). The list should also include requirements that are related to ethical and social aspects. <p>Sourcing – licence withdrawal</p> <p>A requirement could be also add for withdrawing the label when the sourcing company is found responsible for illegal practices.</p>	<p>As done in the EU Ecolabel for Copying and Graphic Paper and on that used in the most recent EU Ecolabel for Textiles, legal sourcing has been included in the proposal to address the issue also in extra-EU countries.</p> <p>This is not present in texts conventionally used and it should be automatic that licences are withdrawn when criteria are not respected</p>
<p>- Bleaching</p>	<p><i>Bleaching - TCF/ECF</i></p> <ol style="list-style-type: none"> 1. TCF pulp should be only required. 2. A very low amount of TCF fluff pulp exists. <p><i>Bleaching - AOX limit</i></p> <ol style="list-style-type: none"> 1. The limit 0.17 kg AOX/ADT seems to be high. If ECF bleaching is accepted, 0.15 kg/ADT should be the maximum allowed limit. 2. The limit should not be below 0.15 kg/ADT 3. Wood species used for fluff pulp are more difficult to bleach. 	<p>In order to keep a technology neutral approach, TCF is not proposed for this first set of criteria. This is also in alignment with what done in other environmental labels, for instance the EU Ecolabel for Copying and Graphic Paper.</p> <p>Based on the element provided, 0.17 kg AOX / ADT is proposed as limit value</p>

	<p>Emissions can be also above 0.2 kg/ADT. A limit of 0.17 kg/ADT would be consistent with the requirements set in the Copying and graphic paper criteria. Further decreases could be unfeasible in short time, even considering that production of fluff pulp is much lower than that of other pulps. There may also be limited chance to mix pulps in the manufacturing stage.</p> <p><i>Bleaching - credits</i></p> <p>A credit should be given to the AOX entering the pulp production plant with the incoming fresh water.</p> <p>Bleaching - wording</p> <p>Differently from the criteria for Copying and Graphic Paper, it is enough to write that "AOX shall only be measured in processes where chlorine compounds are used for the bleaching of the pulp". The following text should thus be deleted: "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."</p>	<p>This is not a common practice also for other labels.</p> <p>Text has been corrected accordingly</p>
<p>- Optical brighteners and colouring agents</p>	<p><i>Optical brighteners and colouring agents - wording</i></p> <p>Referring to optical brighteners would be more correct than referring to visual whitening agents. Both pulp producers and applicants should provide a declaration of non-use. However, they are usually added to paper and not to the pulp.</p>	<p>Text has been corrected accordingly</p>
<p>- Emissions of COD and P to water and of S compounds and</p>	<p><i>Emissions of COD and P to water and of S compounds and NOx to air - thresholds</i></p> <ol style="list-style-type: none"> 1. Proposed thresholds are the same of the criteria for Copying and Graphic Paper. Emissions depend on the wood species used. Further reductions can be supported only if derogations are considered for local species, as done for P. This requirement is ambitious for US mills and 	<p>Based on the elements collected, proposed thresholds have been maintained.</p>

NOx to air

<p>alone it would be sufficient to select the best performing mills. The values should be kept without any further reductions.</p> <ol style="list-style-type: none">2. Compared to paper pulp, energy consumption for fluff pulp could be slightly higher but emissions to water and air would be the same.	
<p><i>Emissions of COD and P to water and of S compounds and NOx to air – Phosphorous emissions</i></p> <ol style="list-style-type: none">1. Rewording is proposed "P emissions can be reduced with natural P from wood raw material and incoming water"2. The requirement should be based on net discharge of P. In other words, the incoming P in wood and raw material should be subtracted. This can be comprise between 0.005-0.010 kg P/ADT.	<p>The criterion already takes into account for the incoming P. Rewording has been applied.</p>
<p><i>Emissions of COD and P to water and of S compounds and NOx to air – Pulps</i></p> <ol style="list-style-type: none">1. TMP/groundwood pulp should not be used as fluff pulp.2. Fluff pulps are never mixed so that it is not necessary to specify that "Where different types of pulp are used, measured emissions and reference value shall be weighted according to the relative weight of each pulp type"	<p>The criterion has been changed accordingly</p>
<p><i>Emissions of COD and P to water and of S compounds and NOx to air – A&V</i></p> <ol style="list-style-type: none">1. Continuous methods for NOx and S measurement should be added.2. A&V based on yearly averages, or 45 days for new plants/processes.	<p>The assessment and verification procedure was discussed with stakeholders and should take into account for all the main recommendations made in the last consultation.</p>

<p>- Emissions of CO₂</p>	<p><i>Emissions of CO₂ – limit value</i></p> <ol style="list-style-type: none"> 1. The limit value of 1100 kg per ton of pulp is very high and probably referring to both pulp and paper production. More sensible limit values could be: 150-200 kg / ADT for chemical fluff pulp; 900-1000 kg / ADT for CTMP fluff pulp. 2. Emissions are linked to the quantity of energy used. Fluff pulp can be partly considered as a paper grade pulp with an important drying step, since the pulp is actually dried beyond 90% and is closer to 95% dryness. This demands more fuel for the drying process and 150-200 kg/ADT would represent a too low threshold. It is recommended to keep the value of 1100 kg/ADT. 	<p>Compared to paper, fluff pulp production presents an important drying process (the moisture content of fluff pulp must be 95%) that requires energy and produces CO₂. Based on information received by stakeholders it is considered that a more ambitious threshold for fluff pulp could be sensibly set at 500 kg/ADT.</p>
	<p><i>Emissions of CO₂ – wording</i></p> <p>For new or re-built production plants, applicants have to make calculations for 8 weeks and then show the results after 12 months production. For campaigns, applicants have to calculate emissions for the production period from the fossil fuels used during the whole campaign.</p>	<p>The criterion has been changed accordingly</p>
<p>- Energy</p>	<p><i>Energy – Approach</i></p> <ol style="list-style-type: none"> 1. Heat and electricity consumption should be combined into one indicator. 7500 kWh/ADT as sum of fuel and electricity is proposed. 2. Energy consumption is closely related to CO₂ emissions. The presence of criteria for CO₂ and energy may be redundant. In addition, renewability of the energy source should be taken into account. 	<p>The energy requirements have been withdrawn to simplify the set of criteria considering that</p> <ul style="list-style-type: none"> • Emission of CO₂ is an indirect indicator of consumption of fossil energy. • There are controversial issues related to the criteria on energy set in Copying and Graphic Paper. <p>If requirements have to be set, these should refer to primary energy, or total consumption of final energy and not to be split between electricity and fuel. Moreover, also renewability should be taken into account. These are issues to consider in the next revision of the paper products.</p>

	<p><i>Energy – Thresholds</i></p> <p>Fluff pulp is dried to reach 5-6% moisture content, compared to paper grade pulp which contains 10% of moisture. Energy consumption for fluff pulp could be slightly higher.</p> <p><i>Energy – Pulp sources</i></p> <p>It has not been specified that the fuel value for CTMP refers to air dried market pulp. However, CTMP is a mechanical pulp. If this refers to TMP and ground wood pulp, this is not used as fluff.</p> <p><i>Energy – Calculations</i></p> <p>The 1.25 factor for deducing the internally generated electricity should be revised to take into account the actual efficiency measured in different boilers fed with different fuels.</p>	<p>If the proposal is kept, the same comments for CO2 apply.</p> <p>TMP has been removed from the requirements on emissions. According to the background information available, CTMP is relevant for fluff pulp.</p> <p>Based on in-house calculations, the 1.25 factor can make sense. Rewording is necessary if the proposal is kept. However, major discussion will be needed at the next revision of the paper products.</p>
<p>- Industrial best practices</p>	<p><i>Industrial best practices</i></p> <p>Emission limits are already based on BAT and these requirements are thus unnecessary to select the 10-20% environmentally best products on the market.</p>	<p>All the redundant requirements have been removed but the entire proposal will be withdrawn since the other criteria are considered to allow by themselves to select more eco-friendly products.</p> <p>The following measures have been withdrawn:</p> <ol style="list-style-type: none"> 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
<p>Man-made fibres</p>		
<p>- Sourcing</p>	<p><i>Sourcing – pulp</i></p> <p>The current requirements are below the standards set by the main certification schemes. The same requirements for fluff pulp should</p>	<p>Requirements have been aligned with textiles, where discussion on viscose has been made. Different thresholds can make sense because of different specificities among</p>

	<p>be applied. An Asian producer has introduced FSC certified fibres for nonwoven applications (http://www.pt-spv.com/in/products/viscose-staple-fiber/nonwoven-fibers.html).</p> <p><i>Sourcing – cotton</i></p> <p>Dissolving pulp made of cotton linters should also be made from 100% organic cotton. This does not compete with textile cotton. This requirement could reinforce the organic cotton market because it gives a good processing channel for organic cotton that does not reach textile quality levels.</p> <p><i>Sourcing –AV</i></p> <ol style="list-style-type: none"> 1. Because of confidentiality reasons, fibres manufacturers should not have to provide a list of pulp suppliers and their share to AHP producers. Documentation should be collected by the fibre producer and communicated directly to the CB. 2. Sourcing could change from one year to another and practical rules on how to handle this must be set. 	<p>different pulp grades. However, at the moment the same threshold (25%) is proposed for SFM-certified fibres in fluff pulp and man-made fibres.</p> <p>This requirement has been aligned with the criterion on cotton (see comments below).</p> <p>The wording should take into account the recommendation made.</p> <p>Practical rules on how to handle the sourcing issues from one year to another can be set in the user manual.</p>
<p>- Bleaching</p>	<p><i>Bleaching – TCF/ECF</i></p> <p>TCF fibres can be produced. Currently less than 15% of the viscose produce in the world is TCF (http://www.fibre2fashion.com/news/company-news/sniace/newsdetails.aspx?news_id=78094).</p> <p><i>Bleaching – AOX/OX</i></p> <p>It would be better to refer to AOX emissions than OX. These should be below 0.15 kg/ADT. If requirement of OX is to be kept reference should be made to fibre production rather than pulp production. OX should be better referred to as OCI in accordance with ISO 11480.</p>	<p>In order to keep a technology neutral approach, TCF is not proposed for this first set of criteria. This is also in alignment with what done in other environmental labels, for instance the revised EU Ecolabel for Textiles.</p> <p>Alignment with the EU Ecolabel for Textiles has been made, OX has been changed with OCI.</p>
<p>- Optical</p>		

brighteners - Production of fibres	<i>Production of fibres – emissions of S and Zn</i> It should be clarified why emissions of S and Zn are less strict than in the Nordic Swan <i>Production of fibres – emissions of COD</i> If the main reason is to avoid emissions it would be better to have a criteria for COD emissions lower than 25 kg/ADT or still better TOC lower than 9 kg/ADT. <i>Production of fibres – criterion on energy</i> Energy criteria as for fluff pulp would be preferred.	Alignment with the EU Ecolabel for Textiles has been made Alignment with the EU Ecolabel for Textiles has been made Alignment with the EU Ecolabel for Textiles has been made			
	- Industrial best practices <i>Industrial best practices</i> <ol style="list-style-type: none"> 1. Criterion on best practices should be removed because not necessary to select the 10-20% environmentally best products on the market. 2. Distinction between pulp production and fibre production is recommended. For instance the use of fluidized bed incinerators refers to pulp production as well as the requirement for air emissions. 	The entire proposal will be withdrawn since the other criteria are considered to allow by themselves to select more eco-friendly products. The following measures have been withdrawn: <table border="1" data-bbox="1258 847 2045 1335"> <thead> <tr> <th>Environmental area</th> <th>Measures</th> </tr> </thead> <tbody> <tr> <td>Water consumption and wastewater emissions</td> <td> <ol style="list-style-type: none"> 1. Removal of Na₂SO₄ 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 </td> </tr> </tbody> </table>	Environmental area	Measures	Water consumption and wastewater emissions
Environmental area	Measures				
Water consumption and wastewater emissions	<ol style="list-style-type: none"> 1. Removal of Na₂SO₄ 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 				

		<p>desulphurization is necessary, anaerobic reduction to H₂S must be carried out.</p> <p>4. Use of separate effluent collection systems for</p> <ul style="list-style-type: none"> - 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	<p>1. Use of fluidized bed incinerators to burn non-hazardous wastes with subsequent heat and energy recovery</p> <p>2. Recycling of fibres, wherever possible</p>
	Air emissions	<p>1. Condensation of exhaust air from spinning streets to recover CS₂ and backcycling into the process. (different technologies available).</p> <p>2. Operation of spinning frames in houses in order to minimise CS₂ emissions, (spinning frames are the sources of CS₂ emissions). Housings have to be equipped with leak-proof sliding windows and have suction systems inside where excess CS₂ is</p>

			<p>purged to a recovery facility.</p> <p>3. Application of exhaust air desulphurization processes based on catalytic oxidation with H₂SO₄ production.</p>
Cotton			
- Sourcing	<p><i>Cotton – Sourcing and traceability</i></p> <ol style="list-style-type: none"> 100% of organic cotton should be required. A certified absence of any form of pesticides is advisable from a toxicological point of view. Moreover, this would strengthen the market for organic cotton because cotton producers would see additional opportunities to produce and market organic cotton with lower staple length and/or organic comber noils. There is hardly any competition with textile grade cotton fibres. Organic cotton represents only few per cent of the market (less than 1% in 2007/2008). Even with dramatic increases (+30%/year), it will be well below 10% of total global production. 100% is too high. 	<p>Considering the information reported, 10% is the threshold proposed for organic cotton. This could be raised in next revisions. However, the balance should not be GMO in accordance with the internal discussion held in textiles.</p>	
- Bleaching	<p><i>Bleaching – TCF/ECF</i></p> <p>TCF cotton should be used since technically feasible and marketed (http://www.barnhardtcotton.net/technology/cotton-processing/).</p>	<p>In order to keep a technology neutral approach, TCF is not proposed for this first set of criteria. This is also in alignment with what done in other environmental labels, for instance the revised EU Ecolabel for Textiles.</p>	
- Optical brighteners			
- Industrial best practices	<p><i>Industrial best practices</i></p> <p>Criterion on best practices should be removed because not necessary to select the 10-20% environmentally best products on the market.</p>	<p>The entire proposal will be withdrawn since the other criteria are considered to allow by themselves to select more eco-friendly products.</p> <p>The following measures have been withdrawn:</p>	

	Environment al area	Measures
	Water consumption and wastewater emissions	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 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	<p>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.</p> <p>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.</p>
Plastic materials and synthetic polymers	<p><i>Definitions</i></p> <p>A better definition of polymers is necessary.</p>	Definitions have been provided	
- Sourcing and production	<p><i>Sourcing and production</i></p> <ol style="list-style-type: none"> 1. A requirement on bio-plastics could be difficult to fulfil ensuring a proper function of the product at the same time. It would be better to rely on a criterion on GWP. 2. A possible alternative would be to require suppliers to declare that plastics perform better in terms of GWP (or energy demand) than the average profiles defined by Plastic Europe. 	The proposal has been withdrawn. A criterion on GWP for plastics has been introduced.	
- Heavy metals / Organotin compound	<p><i>Heavy metals / Organotin compounds</i></p> <ol style="list-style-type: none"> 1. Non-use of these substances should be ensured. The 0.1% limit is insufficient and still allows the use of these 	<p>Apart from mercury, restrictions on heavy metals have been kept, the threshold has been lowered to 0.01%.</p> <p>Restrictions on organotin substances have been put on hold</p>	

<p>ds</p>	<p>substances in concentrations that go beyond trace limits. In the Nordic Swan organotin compounds are limited to 0.01%.</p> <p>2. Organotin compounds are not intentionally used in the manufacture of AHP and trace levels does not constitute a safety threat to consumer.</p>	<p>since typical concentrations of these compounds seem to be far below trace limit levels and not representing a threat.</p> <p>Additional restrictions on additives intentionally used above 0.1% by weight have been restricted based on their H-statements.</p>
<p>- SAP</p>	<p><i>SAP – residual monomers</i></p> <p>1. The 1000 ppm limit value for residual monomers should be reduced at 400 ppm since this value is respected by several applicants for the Nordic Swan.</p> <p>2. 1000 ppm is recommended by industry as limit value for the residual monomers</p> <p><i>SAP – water soluble extracts</i></p> <p>5% threshold for water-soluble extracts would be difficult to achieve, with test duration at 16 hours and even after 1 hour with the EDANA test method. This would prevent the whole industry from obtaining the EU Ecolabel.</p> <p><i>SAP – acryl amide</i></p> <p>1. it must be clearly stated that acryl amide is not intentionally added.</p> <p>2. acryl amide should be limited below trace limits. Alternatively, it should be said that the substance has not to be present, intentionally or not.</p> <p><i>SAP – sodium polyacrilate</i></p> <p>Not all health aspects of sodium polyacrilate have been thoroughly investigated. The substance should be thus not referred to as an inherent safe material.</p>	<p>The threshold has been set at 1000 ppm, however, the requirement has been reinforced referring to criterion 7 on chemicals. Derogation from the requirement has been assigned to sodium polyacrilate.</p> <p>A 10% threshold has been preliminarily set. A different threshold proposal with supporting documentation is expected from industry</p> <p>A requirement on the non-use of acryl amide has been added.</p> <p>This has been clarified in the report</p>

<p>- Industrial best practices</p>	<p><i>Industrial best practices</i> Criterion on best practices should be removed because not necessary to select the 10-20% environmentally best products on the market.</p>	<p>The proposal will be considered for removal if the other requirements on plastic will be considered satisfactory.</p>
<p>Other materials</p>	<p><i>Adhesives - phthalates</i></p> <ol style="list-style-type: none"> 1. All phthalates should be restricted as in the Nordic Swan. 2. DIBP is used for this application. Please remove general reference to phthalates. 3. DINP has been found in the glue used in panty liners. <p><i>Adhesives – colophony resins</i> Refer to chemicals and CAS numbers. Only hazardous and unstable colophony resins should be specified.</p> <p><i>Adhesives - formaldehyde</i> Testing of formaldehyde is not relevant for hotmelt adhesives and this should be corrected.</p>	<p>Only reference to DINP and DIBP has been made</p> <p>Colophony resins of concern have been specified.</p> <p>The requirement has been changed accordingly.</p>
	<p><i>Inks and dyes</i></p> <ol style="list-style-type: none"> 1. The exemption for TiO₂ on the basis that its non-use will lead to non-aesthetic products should be removed because subjective. 2. Use of inks and dyes should be allowed if it is safe. Compliance with criterion on hazardous substances would be enough 	<p>Inks and dyes are allowed to be used under specific conditions. Reference to article on hazardous substances is given in the requirement.</p> <p>Aesthetic of the product is subjective but it is also an important factor of choice, especially for feminine hygiene products.</p>
	<p><i>Fragrances and lotions</i></p> <ol style="list-style-type: none"> 1. There is no robust scientific evidence but Scandinavian customers could be confused if these substances are allowed. 	<p>Based on the elements collected, the following proposal is considered to represent a solution taking the different views into account:</p> <ol style="list-style-type: none"> 1. A full ban of fragrances is proposed for product for

<ol style="list-style-type: none"> 2. A full ban of fragrances and lotions is welcome because these are not needed and because of the risk of causing allergies. This is particularly important for products for children. 3. Fragrances should be excluded in products intended for infants, babies and children under the age of twelve. The age could be raised until eighteen following the definition of child given by the UN Convention on the Rights of the Child. 4. The use of lotions in this product group should be avoided. 5. Use of substances should be allowed if it is safe. Compliance with criterion on hazardous substances would be enough 6. Lotions could be accepted if no derogations are granted. 	<p>children</p> <ol style="list-style-type: none"> 2. No restrictions are proposed for lotions 3. Manufacturers must declare the presence of any lotions and fragrances used 4. Reference to article on hazardous substances is explicitly made
<p><i>Chlorine and phthalates</i></p> <ol style="list-style-type: none"> 1. This is not a PVC application, please remove the wording PVC and phthalates. 2. Phthalates are never added intentionally. Nevertheless, contaminations below 100 ppm are possible. It would be needed to ensure a limitation of trace pollutants as these substances should not be present in products which are used daily. DINP has been found in the glue used in panty liners. Presence of DEHP has been also reported for some diapers (http://ehp.niehs.nih.gov/wp-content/uploads/120/7/ehp.1104052.pdf) 	<p>Wording has been corrected and DINP has been included within the requirements for adhesive materials.</p> <p>The referred source reports that DEHP was present in a diaper below 100 ppm, likely as trace element. No indication is provided on which part this is found. Moreover, the scope of the study does not seem to include a significant amount of products. DEHP, already restricted as SVHC under REACH, shall be handled under criterion 7.</p>
<p><i>Odour control substances</i></p> <p>The use of odour control substances in this product group should be avoided.</p>	<p>This is already covered with requirements on hazardous substances and on fragrances.</p>
<p><i>Nanosilver</i></p>	<p>A restriction on nanosilver has been added, as done also for</p>

	<p>The use of nanomaterials in this product group should be avoided. In particular, nanosilver should be prohibited since there are napkins that are advertised for containing this material (http://www.fohow.com/index.php/Products/detail/id/44/l/en/).</p>	<p>textiles.</p>
	<p><i>Biocides</i></p> <p>The use of biocides in this product group should be avoided. There are some documents referring to the use of these substances in diapers (http://www.mp2diaper.com/Diaper-101_ep_42-1.htmlhttp://www.awchamburg.org/AWCH_GettingSettled/AWCH_Child_Family/AWCH_Diapers.html).</p>	<p>The referred source does not seem to indicate that biocides are used in AHPs but that "TBT is also an ingredient used in biocides to kill infecting organisms".</p>
	<p><i>Nolyphenol substances</i></p> <p>The use of nolyphenol substances in this product group should be avoided. A study has reported the presence of 4-t-nonylphenol in diapers (http://ehp.niehs.nih.gov/wp-content/uploads/120/7/ehp.1104052.pdf)</p>	<p>The referred source reports that 4-t-nonylphenol was present in a diaper below 100 ppm, likely as trace element. No indication is provided on which part this is found. Moreover, the scope of the study does not seem to include a significant amount of products. The substance, already restricted under REACH as SVHC, shall be handled under criterion 7.</p>
Excluded or limited substances or mixtures	<p>This requirement would be complex if industry has to go back to several levels of the supply chain.</p> <p>Assessment and verification of the criterion could be enhanced by referring to the product and homogenous parts/materials of the products.</p>	<p>The version applied for Bed Mattresses has been preliminarily applied here. The final requirement could be influenced also by the work of the HTF on chemicals.</p>
Minimisation of the production waste	<ol style="list-style-type: none"> 1. Reference should be made to the thresholds set in the Nordic Swan, which are specific for each product and higher. 2. This criterion could be implemented using the schemes already operating such as ISO14001, EMAS and EPD. 	<p>Thresholds and wording has been revised accordingly</p>
End of Life	<p>In those countries where source segregated MSW collection is in place, there is an obligation for manufacturers to state on the packaging of the product the correct way of disposing post-</p>	<p>Such obligations are not considered applied in all countries and thus it could be still relevant to keep the requirement.</p>

	consumer waste.	
Fitness for use	<p><i>General comments</i></p> <ol style="list-style-type: none"> 1. Also technical tests should be requested. These are very useful to monitor the quality of the products. Producers can use these tests and compare them with results from market leading products 2. Only user test should be requested for assessing the performance of the products. The key parameter is the overall performance. A good rating in the user tests together with quality assurance processes should ensure a high performance of the product. 	<p>Thresholds have been set only for user tests. Technical tests have been requested as complementary information. Since the latter ones are performed in any case, no additional burdens to companies are foreseen.</p>
	<p><i>User tests – rating scale</i></p> <ol style="list-style-type: none"> 1. Wording and figures for the requirement on user testing must be revised. Users tend to go for rating 3 in a 5 graded scale. Testing is not feasible for each size of products. Premature and newborn can be difficult because outgrowing of the size. Tests should be done of the most sold sizes. Besides, when developing a new product, only one size is produced in the test runs and that is the only one that can be tested. 2. For overall performance, skin dryness and compatibility and fit and comfort, requiring that 90% of the consumers rate themselves as satisfied is highly demanding. A requirement of 80% would already ensure a high performance of the product. For leakage protection, requiring that leakage does not occur in 10% of diapers would not ensure a high performance of the product. Since this is one of the main factors of evaluation, threshold should be lowered to 5%. 	<p>For leakage protection the threshold has been lowered to 5%. The rating scale has been set from 1 to 10, 80% of the products must score at least 7.</p>

	<p><i>User tests – Test panel</i></p> <ol style="list-style-type: none"> 1. Test panel could be made of 20-30 persons and tested using a scale 1-10 (very bad, bad, middle, good and very good). Typical score is 6-8.5 and it is hard to see scores above 8.5. Testing should be as much independent as possible. 2. A sample of 100 consumers should be used. <p><i>User tests – structure</i></p> <p>Guidelines are for instance provided in AFNOR Q34-019. Skin dryness and compatibility need some better definition</p>	<p>One of the outcomes of the 2nd AHWG meeting was that 30 people would have represented a good compromise between costs and reliability of the test.</p> <p>The presented proposal is derived from EDANA's guidelines and interaction with stakeholders. This tries not to favour any specific scheme, however the AFNOR Q34-019 has been cited in the description of the criterion. Reference "compatibility" has been removed.</p>
	<p><i>Safety tests</i></p> <ol style="list-style-type: none"> 1. ISO 11737-1 on sterilization of medical devices is not applicable to the products within the scope and thus it should be excluded. 2. There is no need to perform additional safety tests since the products meet the General Product Safety Directive and the REACH Directive. A declaration from the manufacturer that he complies with the Good Manufacturing Practices (GMP) should guarantee the quality of the product. 	<p>The criterion has been modified accordingly with this comment</p>
<p>Information on the EU Ecolabel</p>	<p>A statement on the product's renewability could be added, such as "the product is designed to reduce the impact from the consumption of resources and to maximize the product's use of renewable materials"</p>	<p>According to the background information produced along the project, the main action to decrease the environmental impact of the product is to minimise its weight and to improve the sustainability of materials.</p>
<p>Social aspects</p>	<p>The applicant should have a system in place and describe for the competent body, but not supplying any reports. Not all countries have ratified ILO conventions. Some of these conventions are in conflict with national laws and regulations (e.g. in the USA, China, India, Brazil, Mexico). A revised proposal has been submitted.</p>	<p>A revised proposal has been drafted in accordance with what proposed for Textiles.</p>

Other comment s	A horizontal task force for forestry aspects should be set-up.	This is an issue of relevance for EUEB
--------------------------------	--	--

ANNEX 2: Table of Comments received between 31 August 2013 and 31 December 2013

Issue/Criteria	Comments	Action
Validity of the criteria	The period of validity should be 3 years	The validity shall be decided at EUEB level and shall be aligned with that of other products.
General	<p>Criteria should address LCA impacts from the full life cycle of products or at least support the collection of information for the next revision in alignment with PEF/OEF methodologies.</p> <p>Diaper production is the core phase but addressed only in criterion 8 (material efficiency). Other criteria should be introduced for</p> <ol style="list-style-type: none"> 1. handling the management of the production cycle; 2. setting improvement objectives based on the reduction of the overall impact. 	<p>Requiring applicant to carry out a full LCA studies is not a possibility considered within the EU Ecolabel for the time being. This would increase costs for assessment and verification and could pose significant burdens for SMEs. The approach could vary in the future in case of changes to the Regulation itself.</p> <p>The main impacts are due to materials, not to the production stage. Increasing information on weight and composition is the key issue. EU Ecolabel requirements are moreover pass/fail criteria that must be respected at the time of application.</p>
Information on the product	The sentence "Information on the weight shall be also displayed in the packaging" is probably misleading and should be corrected in "Please provide also information on the weight of the packaging".	Key information is related to weight and composition of the product. The sentence has been changed into "Information on the weight of the product shall be also displayed in the packaging"
Fluff pulp - Sourcing and traceability	<p>The amount of SFM certified fibres should be kept at 25%. The amount of certified fibres is limited and a too-high demand could push away companies from FSC in favour, for instance of SFI. 90% of the pulp comes from the US, where only 24% of wood purchased by the forest industry is third-party certified (http://www.afandpa.org/sustainability/promote-sustainable-forestry). By comparison, in Europe, 61.6% of virgin wood fibres used by the industry are PEFC or FSC certified. Large paper</p>	<p>Wording has been based on that used for viscose in the Ecolabel criteria for textiles, whose criteria have been voted in November 2013, and aligned to the standard text used for the other paper products. Requiring certificates of custody is minimal requirement for all products while flexibility is left for the % of fibres from SFM.</p> <p>Based on the comment received, it is considered that the most appropriate value for the sourcing of SFM fibres should</p>

companies are actively working with landowners to increase the input of certified fibres but the availability of certified wood is progressing slowly. In the South East US, over 90% of the forests have private ownership which presents a challenge in terms of increasing certified forests. Owners are reluctant to be told how to manage their land, or to have increased costs linked to certification (annual audits and other administrative fees). Going beyond this threshold would exclude fluff pulp suppliers based in North America, creating a barriers to trade that cannot be justified by environmental benefits.

Moreover, the current criteria are already ambitious for fluff pulp producers. For instance, one of the main producer reported that only 30% of its total production would be able to fulfil all the requirements on sourcing and emissions. Criteria mutually concur to the identification of more environmental friendly products.

be 25% because:

- Fluff pulp is mainly produced in the USA from other types of wood for which the share of certified of wood is limited and showing slow progress.
- The criterion would be aligned with the recently requirement for textiles, where a similar issue for viscose arose.
- The current threshold for the Nordic Swan of AHPs is 20%
- This is only one of the requirements applied to fluff pulp. All together criteria are considered to be strict enough to select better pulp suppliers on the market (30% indicatively).
- Stricter requirements could limit the penetration of the label or could even promote less stringent certification schemes or other materials (e.g. SAP)
- This is the first generation of criteria and stricter requirements can be set in the next revision.

The choice of higher thresholds would be more a "political" issue. From a market perspective, there does not seem to be enough evidence that stricter requirement would work for this product group. Examples of products using higher amounts of SFM certified fibres are reported but it is not known if they are a niche products or what is their market importance.

The reported sustainability vision set more ambitious targets in other areas or for other types of product:

- The target of 40% SFM certified fibres refer to tissue paper products and not AHPs, where a different type of pulp is used

It is not realistic to require that all fibres shall be covered by valid certificates of custody. A EU document should not refer to the UN FAO sustainable forest management when there are the certification schemes to refer to. Fluff pulp is mainly made in the USA, and then it is not the pulp manufacturer but the applicant which have to operate due diligence process according to Regulation (EC) 995/2010. The following wording is thus suggested , even if it would be preferred 50% rather than 25%:

A minimum of 25% pulp fibres shall be certified by an independent third party certification scheme such as FSC, PEFC or equivalent. The remaining proportion of pulp fibres shall be from wood that is sourced from legal forestry and plantations.

Assessment and verification:

The applicant shall provide valid, independently certified chain of custody certificates from the pulp supplier and agreement or statement from pulp supplier giving the percentage of certified

- The target of 100% certified fibres seem to refer to the legality issue, which is already included in the requirement.

Moreover, it is not correct to say that having 7-14% of certified fluff pulp on the market would be enough to have 10-20% of products with 70% of certified pulp. First, this information should be related to the demand of pulp the products; second, this is equivalent to assume that certified pulp is used only in labeled products and 0% in other products. In reality there is competition in the use of a relatively scarce resource between all products and it would be wiser to wait the revision of the criteria before to set more ambitious levels.

Wording on GMO trees has been deleted.

See above

fibres sold to applicant.

FSC, PEFC and PEFC endorsed schemes shall be accepted as independent certification.

The applicant shall demonstrate that due diligence processes have been followed as specified in Regulation (EC) 995/2010 in order to ensure that timber has been legally 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.

The EU Ecolabel criteria for copying and graphic paper requires that at least 50% of pulp fibres shall be manufactured from wood that has been grown according to the principles of Sustainable Forestry Management.

See above

The SFM certification threshold should be increased to at least 70% and the formulation used for converted paper should be used. Figures on the market penetration of specific certified products is not known, however, some evidence on actual and potential use of certified materials for AHPs, including in the USA, is given in the following:

See above

1. In the publication "Long-Term Vision & 2020 Goals" (http://www.pg.com/en_US/sustainability/environmental_sustainability/environmental_vision.shtml), Procter&Gamble, one of the most important producers of AHPs, declares that one of its strategic goals is to "Have 100 percent of the virgin wood fiber used in our tissue/towel and absorbent hygiene products be third-party certified by 2015. Have 40 percent of the virgin wood fiber used in our tissue/towel products be FSC certified". This Vision was established in 2010. Based on this, there should be quite a significant amount of certified wood fibers.

2. Domtar is another example of a company that is FSC

committed, has several certificates for production of a variety of products, and recently bought Associated Hygiene Products, the largest sanitary product converter in the US. Domtar has a huge, market leading FSC position and FSC is a core part of their competitive strategy. It can be thus expected that they will bring more and more FSC certified sanitary products on the market.

Companies are able to produce FSC certified fluff pulp based products as soon as there is demand, but some seem to give priority to the use of the available supply for other products where the demand is more mature (e.g. printing and writing papers, tissue, packaging). Furthermore, SFM certification in the South-East US is increasing with the possibility of include also fluff pulp production.

It is welcome to see that 100% of the virgin fibres used are to be covered by certificates issued by independent third party certification schemes. It is strongly recommend that the wording is aligned with the text proposed in Copying and Graphic Paper to strengthen the requirement and ensure that the remaining share of non-certified fluff pulp shall not originate from controversial sources. The inclusion of the wording “PEFC endorsed schemes” under assessment and verification should be also removed as redundant given that PEFC is the Programme for Endorsement of Forest Certification. The Ecolabel Board has so far accepted that the certification schemes shall be FSC, PEFC or equivalent, and it should evaluate and determine based on the documentation provided the equivalence of any other certification scheme compared to the FSC and PEFC⁷⁵.

In addition, all EU Ecolabel products should set an ambition level of environmental excellence for sustainable sourcing aiming at 100% of the fibres originating from sustainable managed forests or at least not below the criteria set for labelling by well-established

See above

⁷⁵http://ec.europa.eu/environment/ecolabel/documents/usermanual_paper.pdf

certification schemes in the field of forestry.

JRC has proposed that only 25% of the fluff pulp originates from sustainable certified forests, based on lower availability of certified fluff pulp in the US, main provider of fluff pulp. These seems to reflect the fact that all manufacturers of hygiene absorbent products would apply for the EU Ecolabel. According to the EU Regulation, the criteria should apply to 10-20% of the products on the market. In this respect, if 10-20% of the products on the market should be able to obtain 70% certified fluff pulp it would be sufficient to have only 7% and 14% of certified fluff pulp on the market.

The EU Ecolabel, as a label of environmental excellence should not set requirements below well-known products, but should drive innovation and contribute to green the market. It is trusted that environmentally aware manufacturers can find sustainable certified pulp and that important companies in this sector will back ambitious requirements as they are committed to sustainability.

Availability of certified materials is growing fast, and for which production processes this is used depends on demand. The Ecolabel is meant to create and reward such demand.

Criteria for pulp should be aligned with the requirements for labelling of well-established certification schemes in the field of forestry. There are examples of baby diapers which comply with the requirements of the FSC Mixed Sources label and for which at least 70% of the fluff pulp originates from sustainable certified forests. It would harm the credibility of the EU Ecolabel to set requirements below what greener manufacturers in the sector are already doing, and it would also send a wrong message to those that have made the effort to purchase sustainable fluff pulp. These products are listed below:

- *MoltexOko* from ONTEX⁷⁶, which has the FSC Mixed Sources label.
- *BAMBO Nature* by Abena⁷⁷, which has also the FSC Mixed Sources label and the Nordic Swan.
- *Delora* by RAD Medical GmbH (Germany) also uses FSC certified pulp⁷⁸.
- *Attitude* in the US and Canada⁷⁹. The Website says that the product contains 100% FSC Certified wood pulp in fluff, although it is not clear if the FSC label has been placed in the packaging.

Information required for the fluff pulp might come from 2-3 levels up the supply chain and could be very difficult to obtain. Moreover, there is no scientific proof that GMO trees are environmentally worse than non-GMO trees (page 19 of the report).

- Bleaching

Non chlorine bleaching should be supported to avoid risk of presence of dioxins in the final product.

TCF bleaching eliminates chlorinated pollutants⁸⁰. However, the formation of dioxins seems to be mainly related to the use of elemental chlorine (Elemental Chlorine Bleaching). ECF bleaching is a widespread technology for bleaching and it is capable of eliminating 2,3,7,8-TCDD and 2,3,7,8-TCDF to non-detectable levels⁸¹. Both TCF and ECF are accepted, as done also in the Nordic Swan for AHPs and in the EU Ecolabel for textiles. As additional level of protection, AOX limit values are included to the set of criteria, in analogy with the EU Ecolabel criteria for other paper products. Moreover,

⁷⁶ As ONTEX has not apply to the exemption enabling them to use 50% certified fibres, this means that at least they should use 70% certified: <http://shop.delhaize.be/Baby-and-Kids/Hygiene-and-Care/Diapers/Nappies-7C-Maxi-7C-Nr-4-7C-Eco/p/S2013022500201610000>

⁷⁷ Similar to the above, Abena has not apply to the 50% exemption, meaning that they use at least 70% certified: <http://www.bambo-nature.com/bambo-and-the-environment.html>.

⁷⁸ We have not been able to confirm whether the FSC label is in the packaging, but the following claim can be seen: "Wood pulp in the core from FSC certified renewable forestry". The manufacturer has the license to use both FSC Mixed sources (70%) and 100%. http://www.babyridesafe.com/Delora_Eco_Mini_Diapers_p/dedm.htm

⁷⁹ <http://www.mamanautrement.com/en/ecological-disposable-diapers/224-eco-friendly-attitude-diapers.html>

⁸⁰ http://water.epa.gov/scitech/wastetech/guide/pulppaper/upload/1997_11_14_guide_pulppaper_id_fs2.pdf

⁸¹ http://eippcb.jrc.ec.europa.eu/reference/BREF/PP_BREF_FD_07_2013.pdf

- Optical brighteners and colouring agents,

It is not defined yet what an optical brightener, colouring agent or fluorescent whitening agent is. Please add a definition like “An optical brightener, colouring agent or fluorescent whitening agent is defined as an additive with the sole purpose of ‘whitening’ or ‘brightening’ the material. Additives or components with another purpose but a white appearance or fluorescence as a side effect are not limited”. Please add this clarification either in each criterion of relevance or in the definition section article 2 / page 3.

- Emissions of COD, P, NOx, S compounds

The requirement comes from that for copying and graphic paper, however,

1. The limits used for mechanical pulp paper (CTMP) are stricter
2. The formula for the allocation is different

It would be preferable to use TOC emissions instead of COD emissions as reduced metal salts interfere with organic material in COD analysis. The analysis method for TOC is preferable from an environmental point of view if chlorides are present in the sample because in this case mercury has to be used for the COD analysis. An alternative could be to allow using either TOC or COD. If TOC emissions will not be used, TOC analysis (according to EN 1484) followed by calculation of COD with conversion factor should be accepted.

There is a lack of definition of re-built plant or process change. The latest criteria draft does not contain any clarification for what constitutes a re-built plant or process change. For example,

safety of products on the market is tested.

A definition will be included: 'Optical brightener' and 'fluorescent whitening agent' mean any additives used with the only purpose of 'whitening' or 'brightening' the material.

The limit value for P in CTMP has been increased from 0.005 to 0.01 to align with the values reported in Copying and Graphic Paper and in Converted Paper (EU Ecolabel). The allocation procedure was clarified. Changes to the formula will not have major consequences:

- Before, the emission allocated to electricity (X%) were subtracted to the total emissions and the emissions to calculate emissions due to heating (100-X%).
- Now, emissions allocated to heat (100-X%) are calculated directly.

TOC and COD are two different parameters which could assume different values depending on the nature of the effluent. COD is the reference also in other paper products included within the EU Ecolabel scheme and cannot be changed.

Clarifications can be made on the user manual.

<p>- CO2 emissions</p>	<p>replacing a vacuum drum washer in a bleach plant with a wash press could constitute a process change but nothing would change in terms of chemical bleaching sequence process.</p> <p>The criterion states that measurements for S and NOx shall be taken on a yearly basis. In some facilities these parameter are measured every 2 or 3 years via direct stack testing of emissions under prescribed operating conditions. If this is not an adequate verification would testing in the same manner on an annual basis suffice or are you requiring Continuous Emissions Monitoring Systems (CEMS) instrumentation on all emissions locations for these parameters?</p> <p>In the criteria for copying and graphic paper and for tissue paper the limit is set at 1000 kg per tonne and at 1500 kg per tonne, respectively. 500 kg per tonne seems to be too restrictive than those for pulp in paper production (which takes into account both pulp production and paper production). Emissions from paper production are due to pulp production and paper production, but the latter are always lower in percentage (40% against 60%) than those ones from pulp production</p> <p>The fluff pulp can to some extent be seen as a paper product with an important drying process. Please consider an increased value for the CO2emission limit.</p> <p>Emissions from Grid Electricity: 400 g/kWh (and not 400 g/MJ)</p> <p>GHG emissions of electricity depends on the local composition of the grid (e.g. 100% hydroelectric would have a very low GHG emission, 100% coal very high). The collection of data on emissions from the production of raw materials could be very expensive if primary data is required. This would not be an issue if the use of average data from database is permitted.</p>	<p>Measurement of S and NOx has to be taken on a yearly basis and has to be based on the test methods provided as guidance in the description of the assessment and verification procedure.</p> <p>The limit value reported for the other paper products considers pulp + paper production. It was thus necessary to decrease the limit value on CO2 because, although the drying process does not seem to be the most important parameter for defining the total emission profile, fluff pulp is a specialty product produced from a different feedstock and using different processes. The limit value was set to 450 kg/ADT and its definition was also based on consultation of producers.</p> <p>See above</p> <p>The unit of measure has been corrected</p> <p>Assumptions are inherently necessary to simplify the issue and convert reality into environmental criteria. Average values of reference have been defined in analogy with Ecolabel criteria for other product groups. These are supposed to be revised at the next main revision of the paper product groups. Emission data from the production of raw materials are not necessary and thus there is not an</p>
-------------------------------	--	--

		issue of referring to LCI database and/or generic data.
Viscose - Sourcing and traceability	<p>It is not realistic to require that all fibres shall be covered by valid certificates of custody. A EU document should not refer to the UN FAO sustainable forest management when there are the certification schemes to refer to. Fluff pulp is mainly made in the USA, and then it is not the pulp manufacturer but the applicant which have to operate due diligence process according to Regulation (EC) 995/2010. The following wording is thus suggested , even if it would be preferred 50% rather than 25%:</p> <p><i>A minimum of 25% pulp fibres shall be certified by an independent third party certification scheme such as FSC, PEFC or equivalent.</i></p> <p><i>The remaining proportion of pulp fibres shall be from wood that is sourced from legal forestry and plantations.</i></p> <p>Assessment and verification:</p> <p><i>The applicant shall provide valid, independently certified chain of custody certificates from the pulp supplier and agreement or statement from pulp supplier giving the percentage of certified fibres sold to applicant.</i></p> <p><i>FSC, PEFC and PEFC endorsed schemes shall be accepted as independent certification.</i></p> <p><i>The applicant shall demonstrate that due diligence processes have been followed as specified in Regulation (EC) 995/2010 in order to ensure that timber has been legally harvested. Valid FLEGT (Forest</i></p>	<p>Wording has been aligned to that used for fluff pulp and the threshold kept at 25%. This has been agreed in November for textiles and it is the same proposed for fluff pulp.</p>

<p>- Bleaching</p>	<p><i>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.</i></p> <p>In the Ecolabel criteria for copying and graphic paper the threshold is 50%.</p> <p>The requirement has been defined accordingly with the recently revised EU Ecolabel criteria for Textiles, where extensive discussion on dissolving pulp has been held. In the criteria for textile products the AOX limit is the same (0.17 kg / ADT) while the OCI limit is higher and about 250 ppm.</p> <p>Non chlorine bleaching should be supported to avoid risk of presence of dioxins in the final product.</p>	<p>See above</p> <p>The requirement is already aligned (0.17 kg / ADT for AOX and 150 ppm for OCI)</p> <p>See comment above for fluff pulp</p>
<p>Cotton</p> <p>- Sourcing</p>	<p>The percentage of organic cotton should be 100%. Among the products included within the scope of the EU Ecolabel for AHPs, cotton seems to be used only for tampons. For products with a small volume it does not make sense to have a level of organic cotton since the supply situation is not a very big problem. If the manufacturer has to get organic cotton to meet a percentage below 100% anyway, it will be an administrative burden (for both license holders and CBs) to keep track of the percentage.</p> <p>100% organic cotton is necessary to avoid the use of pesticides and residues in the final product and to add value for the label from a market perspective. In addition to environmental impacts of conventional cotton, there are concerns about residual pesticides in the cotton. AHPs are in closed contact with the human body and very sensitive areas of the skin with prolonged exposure. A “certified” absence of any form of pesticide is advisable from a toxicological point of view and for the understanding of the consumer. Also from a market perspective it would be beneficial for the EU Ecolabel to have such requirement for absorbent hygiene</p>	<p>Current organic cotton availability is estimated to be 1-10%, but a different grade is used for AHPs. Cotton seems to be an issue only for tampons, where 20% of the market should be indicatively based on this material. A higher threshold for organic cotton should be feasible and this has been set at 100%.</p> <p>See above</p>

<p>- Bleaching</p>	<p>products. There is hardly any completion with textile grade cotton fibres for cotton used in non-woven. This approach would also allow the criterion to be aligned with the Nordic Swan criteria.</p> <p>In the criteria for textile products the limit on pesticides is 0.05 ppm and not 0.5 ppm.</p> <p>Non chlorine bleaching should be supported to avoid risk of presence of dioxins in the final product.</p>	<p>The requirement is already aligned (0.5 ppm).</p> <p>See comment above for fluff pulp</p>
<p>Plastic materials and superabsorbent polymers</p> <p>- Sourcing and production of synthetic polymers used in plastic materials</p>	<p>The suppliers of polymers are not the direct suppliers to a company manufacturing absorbent hygiene products. Therefore the demand on third party reviewed cradle-to-gate studies on synthetic polymers will be complicated, time consuming and costly to fulfil. Manufacturers of AHP will have to ask suppliers of nonwoven, plastic films, etc., to go further up the supply chain and ask for this information.</p> <p>Citing the cost in the 4th draft of the Technical Report, chapter 4.7: "Moreover, an 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."</p> <p>As a practice today, use of polymers in any European LCA refers to the Environmental Profiles of Plastics Europe. The reports have been regularly updated since later part of the nineties. Please reconsider this requirement.</p> <p>The requirement to demand specific LCA studies for raw materials might be a barrier to trade for SMEs due to study costs. Chemical</p>	<p>No full LCA is requested. The requirement would work similarly to that for the sourcing of SFM fibres. Burdens of the requirement should be mainly absorbed by the producers of polymers.</p> <p>See above</p>

<p>- Additives</p> <p>- Superabsorbent polymers</p>	<p>companies certainly can provide that type of information as long as confidentiality concerns can be overcome. Currently there seems to be an understanding in publications to rely in LCA studies on the published averages by Plastics Europe. In addition, larger units tend to be generally more efficient, although differences are relatively low as materials and energy are drivers from an environmental but also from an economic point of view.</p> <p>Suppliers could generally fulfil these requirements but they do not have made any calculations yet according to ISO14040 and ISO 14025, as requested.</p> <p>The Ecoinvent database provides different values than those reported in the table.</p> <p>Renewable materials do not necessarily have a lower environmental footprint than petrochemical ones (e.g. PLA is worse than PE or PP), they also may introduce a shift of burden from GWP to land conversion or water footprint (page 36).</p> <p>Suppliers do it for economic reasons but not all follow ISO 14001 and ISO 50001 standards.</p> <p>Suppliers could fulfil this requirement</p> <p>Most of the products being awarded the Nordic Swan label contain SAP (all diapers and most of the female care products). Only a few very thin panty liners do not contain SAP and few diapers on the market only contains SAP with no fluff pulp. Documentation has been gathered from several SAP producers (9 types of SAP from 4 different suppliers). It has been observed that the content of acrylic monomer is below the 400 ppm limit and that water soluble extracts are below 5% by weight. The assessment and verification is based on a declaration, so that exact figures on the content of monomers are not known in all the cases.</p>	<p>See above</p> <p>The Environmental Profile of Plastic Europe are at the state of the art the more relevant reference in this area.</p> <p>This element was already included in the report: renewable materials have been critically evaluated and presented.</p> <p>In analogy with what presented in converted paper for the waste management, the reference to certification systems has been removed.</p> <p>Limits have been proposed based on the technical, safety and market elements gathered through discussion with stakeholders.</p> <p>The limit for residual monomers has been set at 1000 ppm, which has been assessed as a safe threshold for absorbing hygiene products. Manufacturers have to report the presence of residual monomers when above 10000 ppm.</p> <p>10% was considered a more appropriate threshold for water soluble extractables. According to industry, the 5% limit for extractables is difficult to achieve even after one hour of</p>
---	---	---

The limit for residual monomers should be reduced from 1000 ppm to 400 ppm as proposed in the Nordic Swan. Experience from Nordic Swan proves that 400 ppm is achievable for manufacturers. A review on Superabsorbent Polymer Materials⁸², describes that in SAP materials, particularly hygienic SAPs, the allowed safe level of the residual acrylic acid has dropped from over 1000 ppm to less than 300 ppm throughout the past two decades.

The most typical superabsorbent polymer is a lightly cross-linked polyacrylate. The cross-linking ties almost all of the chains together to form a polymer of almost infinite molecular weight. The cross-linking is not 100% efficient – not all chains can be tied together and some cross-links are mechanically broken during processing.

testing with the EDANA method. Polymers able to fulfil this requirement would be characterized by a retention capacity of about 27 to 29 g/g. This would not be possible for more common and better performing polymers with a medium (31 to 33 g/g) or even high retention (more than 34 g/g). Other products on the market may contain water soluble extracts up to 100% of the SAP.

In general, a reduction of residual monomers and water extractables can be achieved through an increase of cross-linking with consequent decrease of the technical performance of the product.

The safe profile of SAP is confirmed by extensive research and comprehensive toxicological testing. The issue is not the release of substances but the hazardousness of the released substances and the performance of the material. For this reason, reference to criterion 7 on hazardous substances has been reinforced.

See above

See above

⁸²Mohammad J. Zohuriaan-Mehr and Kouros Kabiri (2008) Superabsorbent Polymer Materials: A Review Polymer Journal 17 (6), 2008, 451-477
http://www.researchgate.net/publication/242582443_Superabsorbent_Polymer_Materials_A_Review

Extractables comprise of those chains not tied to the main polymer

The safety profile of SAP is confirmed by extensive research and comprehensive toxicological testing. The most important test protocols with regard to the hygiene application area are skin sensitization and irritation, which typically are short-term tests. There are no recognized long-term test protocols for this type of analysis. The studies involve the toxicological assessment of the hydrated SAP together with its extractables (as in normal conditions of use) and they confirmed the safety of SAP. Some toxicological parameters have been evaluated for only the extractable fraction. The key findings of these studies, which were used in the publicly available MAK dossier⁸³ are:

- No indication of cytotoxic effects in cell culture assays
- Not sensitizing in the guinea pig maximization test
- No genotoxic effects found in several in vitro assays and in vivo studies
- No indication of irritation or sensitization in human repeat insult patch test.

Although the studies summarised in the MAK dossier were conducted on earlier generations of SAP, the overall chemistry of SAP has not changed in recent years and there is no likelihood of a different toxicological profile resulting from the minor chemical modifications that have taken place. More recent studies may be obtained from SAP manufacturers in support of the presented results.

Studies conducted on the dermal absorption and toxicity of wet SAP are also relevant for the toxicity of the extractable fraction contained in that SAP. Product specific data may be obtained from suppliers. In all the studies conducted on SAP gel together with its

⁸³ <http://onlinelibrary.wiley.com/doi/10.1002/3527600418.mb900301nete0015/pdf>

extractables, no toxic effects have ever been demonstrated.

Based on this information it can be concluded that there is no inherent toxicity associated to the extractable fraction. The water-soluble extractable fraction of polyacrylate superabsorbents is not considered to show a specific toxicity that is different from the polymer itself. Moreover, based on the exposure assessment conducted for residual monomers in SAP, it was concluded that testing in various designs under different conditions up to unusually high liquid loadings resulted in a maximum average amount of 54 µg of available sodium acrylate, measured as acrylic acid from the diapers. Even under the worse testing conditions, the maximum released sodium acrylate measured as acrylic acid amount did not exceed 1.1% of the total amount of sodium acrylate measured as acrylic acid present in the SAP as residual monomers.

Based on these elements, SAP industry is not aware of any scientific evidence that shows a risk from residual monomers and water soluble extracts. The safety of both the SAP polymer and the extractable fraction is adequately confirmed by study results and a long history of safe use of superabsorbent polymers in hygiene articles⁸⁴.

Nevertheless,

1. The proposed limit value for residual monomers should be set at 1000 ppm (this would not be fulfilled by all producers).
2. The proposed limit value for extractables in water solution should be set at 10% (for one hour measurement) according to ISO 17190

Other

⁸⁴ Ecological Assessment of Polymers Strategies for Product Stewardship and regulatory Programs John D. Hamilton and Roger Sutcliffe (eds) Chapter 6 Polycarboxylates and PolyacrylateSuperabsorbents Part II PolyacrylateSuperabsorbents

<p>materials</p> <p>- Dyes/inks</p> <p>- Fragrances and lotions</p>	<p>Please consider to clarify/define exactly which special functions are derogated (e.g. White pigments that reduces the visibility of the product through white or light coloured clothing; Printing for showing the landing zone of tapes; Dyes used as wetness indicators) and which are not (e.g. other dyeing and printing on the back sheet for applying fancy colours or artworks).</p> <p>Currently the requirement looks like any use of dyes and inks for product coding, application guidance, tape landing zone marking, size designations, front/back differentiation, positioning adhesive cover peel-off marking, etc. is not allowed. Please add here that "Information-carrying printing, coding and the like, both on the product and the packaging, is allowed".</p> <p>A lot of products (mainly baby diapers) do use lotions as additive on the product. The possibility of using lotion on baby diapers has to be supported. The effect of lotions is quite specific and contributes to the protection of the baby, by reducing significantly diaper dermatitis.</p> <p>Fragrances should be excluded totally, also to exclude fragrances and substances classified as allergens in lotions (including the content of fragrance substances in plant oil/plant extract ingredients in lotions). Perfumes have absolutely no function</p> <p>The exclusion of fragrances in products intended for infants, babies and children under the age of twelve is welcome. Nevertheless, the age should be raised to eighteen following the definition of child given by the UN Convention on the Rights of the Child and the exclusion extended to other products where the use of these substances may be not necessary. Use of fragrances is not a performance requirement for such products and their use leads to unnecessary exposure for the consumer.</p> <p>Similarly, also lotions are not needed for the performance of</p>	<p>It will be provided some clarifications on the specific functions of dyes/inks which are allowed</p> <p>See above</p> <p>The general line followed during the development of the criteria is that generic groups of substances providing functions to the product will not be discriminated. This is an issue related to hazards and risks, which are already handled with other policy tools and with criterion 7.</p> <p>Some stakeholders reported that consumers in the Nordic countries want fragrance-free products. However, based on the information reported it is not clear if retailers in the Nordic Countries do not want or do not sell AHPs containing fragrances and if people living there do not have the possibility to buy or do not accept to use this type of product. However, the situation is different in other parts of Europe, where there is a relatively wide acceptance of products containing fragrances and it cannot be neglected.</p> <p>Fragrances are not considered necessary for products designed for children and the reference age for the definition of children will be increased to 18 as defined by the UN.</p> <p>The use of fragrances seems to be not negligible at least in</p>
--	--	--

AHPs. They can be used on an ad-hoc basis by parents when required (which is mainly occasional), avoiding thus exposure to unnecessary chemicals. Lotions may contain not only fragrances but also preservatives and other problematic chemical ingredients not covered by criterion 7 on hazardous substances.

The exclusion of fragrances and lotions would be justified by environmental, marketing and health related arguments.

Environmentally aware consumers tend to prefer use of products that are free of unnecessary and/or problematic substances. One claim often used in the Nordic Countries is “free from lotion” (diapers). Women familiar with the health problems posed by perfumes and fragrances would favour the use of free from fragrances and lotions sanitary products. One of the largest retailers in the Nordic Countries reported that they should not have AHPs containing perfumes and lotions and that if they have the sales are very little. Consumers would not support presence of fragrances and lotions in northern EU countries.

Fragrances have a high impact on Critical Dilution Value (an environmental indicator used for detergent products, for instance). The use of fragrances and lotions, which do not contribute to the performance of these products, leads to unnecessary environmental burdens, taking into account the amount of sanitary products that end up in waste.

Fragrances are very sensitizing substances and the use pattern of these products leads to prolonged exposure (as a minimum for hours at a time for several days each month) of very sensitive areas. Feminine care pads and tampons are intended for use on vaginal vulvar tissue, which is an area potentially more vulnerable to exposure to toxic chemicals and irritants than the rest of the body. Fragrances may contain dozens of chemical ingredients.

South Europe (at least 30-40% of products may contain fragrances). Based on a survey carried out on a sample of users of feminine care products, it seems that some users also see the need to have the substance added to the product (33% for pads).

The function of fragrances may be considered unnecessary for tampons and breast pads but there is still a social issue for feminine care products. For this product, fragrances will be accepted if not carrying the risk phrases reported in criterion 7. The same will be the case for the use of lotions. Sensitisers⁸⁵ (i.e. substances and mixtures classified with H317, H334) are restricted based on criterion 7.

Furthermore, as explained in the rationale for the criterion on fragrances, additional established sensitizers, identified in the works of Scientific Committee on Consumer Safety, are also proposed to be excluded.

This approach builds on the experience gained for the revision of the criteria for rinse-off cosmetics.

Another important issue is related to the information place on packaging. Improving the consumer information, so that the potential users (and in particular those who are aware of being sensitized to specific substances) can freely choose between products containing or not perfumes, is an important element which is taken into account.

Requirements on CDV and biodegradation are not considered appropriate for this product group since this is a solid product that is disposed as MSW and usually does not increased impacts to wastewater treatment or composting plants.

⁸⁵ <https://osha.europa.eu/en/topics/ds/materials/clp-osh-guidance.pdf>

Manufacturers do not disclose ingredients in the fragrance, but product-testing show that they may contain allergens, sensitizers, phthalates, neurotoxins and synthetic musks (which can also disrupt hormones). From a precautionary point of view restricting its use in Ecolabelled products is advisable. The current criteria would not even avoid the use of fragrances which have been identified of high concern in humans by the SCCS.

Use of fragrances in feminine care pads have raised concerns, also within the scientific community and different organisations have implemented policies to procure non perfumed products or have free from fragrances environment working places.

If fragrances are allowed, at least the following fragrances should be excluded:

- Musks and nitromusks fragrances, based on environmental toxicity and health issues.
- Substances listed in the opinion on fragrance allergens from the Scientific Committee on Consumer Safety published in 2012⁸⁶, a list of which were considered as of high concern in humans and is not covered by criterion 7 on hazardous substances.
- HICC, atranol and chloroatranol, if this fragrances can be used for hygiene absorbent products.

If lotions are allowed, it will be needed to supplement the criteria with requirements set in the proposal for a EU Ecolabel for rinse-off cosmetics, including all preservatives and endocrine disrupters excluded in criterion 3(a) from that draft decision (Triclosan, Parabens, Formaldehyde, Octamethylcyclotetrasiloxane, ButylatedHydroxy Toluene, etc).

⁸⁶http://ec.europa.eu/health/scientific_committees/consumer_safety/docs/sccs_o_102.pdf

	<p>Other criteria on biodegradability, critical dilution value, etc. would be relevant as well and should be assessed.</p> <p>Moreover, it is unclear whether the Cosmetic Regulation would address fragrances or lotions used in absorbent hygiene products, but diapers may only be covered as an article according to REACH. If the bans and requirements of the Cosmetic Regulation do not apply to lotions used in Absorbent Hygiene Products, this makes it even more important not to accept fragrances or lotions.</p>	
<p>Hazardous substances</p>	<p>Hazards of a substance is not relevant. It is generally accepted that the risk is relevant, based on both hazard and exposure.</p> <p>The criteria generally seems to overlap with those requirements given in 5.2</p> <p>Preparing the dossier with all background information on the classification would be a significant burden that many SMEs would not be able to comply.</p> <p>Limits or cut-off levels must be given in the criteria and not in the assessment and verification guidance section. This is formally the wrong approach since the EU ecolabel regulation states in article 3 on definitions that “5. ‘verification’ means a procedure to certify that a product complies with specified EU Ecolabel criteria.”</p> <p>This sentence probably links to a wrong criterion: “The applicant shall provide a declaration of compliance with requirement 10(a) for the product, any article of it or any homogenous part of it.”</p> <p>The requirement is to be in line with those for paper products and bed mattresses</p>	<p>The current EU Ecolabel regulation focuses on the concept of inherent hazard, meaning that any sensible reduction of hazards would also reduce the source of risks. This is an issue for all the product groups included within the EU Ecolabel scheme.</p> <p>As done in other products it is considered appropriate to give tailored guidelines to producers and consumers also for specific materials and substances.</p> <p>The criterion is applied also to other product groups</p> <p>Concentration thresholds have been added also to the main text.</p> <p>The reference has been corrected.</p> <p>The requirement should be already aligned with those product groups.</p>

Liners.

A defined leakage rate of 5% would not work for some products (e.g. night products or newborn products).

"Information on testing shall be made available to Competent Bodies and to all interested parties, for instance through the company web site". This does not have any value does not make sense since promoting testing methods and testing results would disclose sensitive information to competitors. Moreover, customers could start to test products and to claim back their own results. Results and testing method are not interested for the customers/users. Information can be shared with them if necessary but should not be disclosed publically on the web. There is an important confidentiality issue to respect.

"Test results shall be assessed by an impartial and competent organization." The test and assessment made of the external organisations are very expansive. It makes sense to add following: "if the products are identical (have the same performances) then it should be enough to test only one of them".

"Test results shall be assessed by an impartial and competent organization." Please explain what this means and explain the difference to the sentence before on lab certification.

If tests are to be performed for all products applying for the label this could cover a number of different sizes and could create heavy test burden. Please reconsider the requirement on testing all products applying for labelling.

"Sampling, test design, panel recruitment and the analysis of test results shall comply with ASTM E1958-07e1." Please add "or comparable alternative standards."

The ASTM E1958-07e1 test method is not relevant. This US test method is not specifically designed for AHP and show

The derogation is not considered necessary

The requirement to disclose information to the public, for instance through the website, has been removed.

More flexibility has been given. Tests shall be carried out by laboratories certified to implement quality management systems, no matter if internal or external. If it can be demonstrated that products included in the same product line have the same performance, it can be enough to test only one size.

See above.

See above

More flexibility has been given saying that the analysis of test results shall comply with AFNOR Q 34-019, ASTM E1958-07e1 or equivalent.

The method by AFNOR has been included in the list of methods and guidelines adapted based on the comments

unacceptable weaknesses. An AFNOR method is already used, specifically dedicated to AHP: AFNOR Q 34-019 (décembre 1994) « Articles pour usages sanitaires et domestiques: méthode d'essai au porter pour les articles d'hygiène infantile, féminine et de l'incontinence (articles à usage unique) – recommandations ». The standard defines the elementary rules and essential modalities to respect in case of developing a user test for absorbent hygiene products in order to collect a global appreciation with a panel of users. The document refers to single use hygiene absorbent products (baby diapers, feminine care, sanitary towels, incontinence care products). The methodology applies to all kinds of products of a same market, irrespective of technical evolutions.

The development of this French document has been based on the observation that the existing test methods within the laboratories have «their objectives and their own needs, their own values, but also their limits. In particular, if they measure a criterion of judgement taken in isolation, they cannot take into account the multiplicity of these criteria of judgment or even more their complex interactions in use, and therefore, allow to judge the overall quality of the product». Other fundamental elements that are psychological factors, diversity of the products, technical developments add to these correlation issues between the ability to the use of these products and the test methods. The use of this document is recommended «if you wish to make a comprehensive judgement on absorbent hygiene products closest to their normal conditions of use ». Q 34-019 considers a product is subject to the test according to a defined procedure, considering a determined population, and closest to usual conditions of use of the product. The performance of the product is assessed after the statistical processing of a questionnaire distributed to each person of the panel. The working method describes five steps : questionnaire, type and duration of testing, caution before testing, application of results, setting up and representativeness of the panel.

received by stakeholders.

Key points of the AFNOR Q 34-019:

- Scope: disposable absorbent hygiene products (baby diapers, feminine hygiene products, hygiene incontinence products)
- Questionnaire: a questionnaire per product / open questions
- Kind of test: single-product test (recommended) or paired test

Cautions before testing:

- The test shall be realised in normal conditions of use of the products
- The tested product is presented in an anonymous packaging
- The selected parameters for the test shall fit with the estimated consumer needs

Application of the results : the approach is based on spontaneous answers. Thus the panel shall gather a sufficient number of users to be efficient. The panel shall be carried out by a professional institute. The institute will proceed in the following way :

Establishing criteria of judgment based on the collected answers

- Classifying the answers (opened questions)
- Counting questions by key words
- Statistical analysis for each selected criterion of judgement

Carrying out the panel – representativeness: the population is selected depending on the tested product and its conditions of use. The number of the sample shall be sufficient enough so that the gap between two results can be statistically significant to bring out differences between two products. In case of single test, a panel

	<p>gathering 150 to 300 persons would be necessary compared to the total market and acceptable threshold. A choice for a restricted number is possible when knowing consequence on the test results.</p> <p>It is fine to have standards but ASTM E1958-07 is large and it could be complicated to understand and follow. An external panel test would be extensive while the own test panel should be used. To secure unbiased and objective feedback, the internal panel test could be used as well:</p> <ul style="list-style-type: none"> • The test pilots shall not have any familiar relations to the company they are testing for, and it could be done by means of signed statement between company and test pilots. 	<p>This is not considered necessary.</p>
<p>- Social aspects</p>	<p>To require third party verification of the supply chain's observation of ILO principles will create a high administrative burden. In the technical report it is referred to the corresponding textile criterion and the workability of it, but there is probably fewer number of suppliers involved for textile. It is also referred to the operation of textile industry in risk countries, which in most cases not is valid for AHP produced and sold within EU.</p> <p>Adherence of the supplier to a specified Code of Conduct is usually a part of a manufacturer's Supplier Standard and will then be part of the regular audits done at the supplier's. A manufacturer may then take additional actions if a supplier is located in specific cases when needed. Please reconsider the third party verification. A self-declaration in SEDEX could be considered instead in order not to create a too high level of administrative burden, taking into consideration the high number of suppliers.</p> <p>This criterion has become tougher than in the former draft, now requiring third party verification of the compliance with ILO principles for all suppliers. The motivation is that this is the criterion of the textiles and that it was considered "workable" for the stakeholders of textiles. However, the reason for the way the</p>	<p>Alignment with the criteria voted for textiles (November 2013) is necessary. Nevertheless, where there are applicable national laws in line with the ILO Core Labour Standards (the relevant part regarding fundamental labour rights), regulatory inspections carried out within the last 2 years will be accepted for the verification of compliance to this criterion. This should reduce the administrative burdens for applicants. Further guidance on this element shall be provided in the Ecolabel criteria user manual.</p> <p>A safeguard requirement ensuring that Ecolabelled products are produced with respect to fundamental rights of workers is in place reflecting Ecolabel Regulation Article 6.3.c. The requirement is proposed to cover production sites used to manufacture the licensed product as these are the ones that</p>

criterion is put for textiles is that “On one hand the proposals were supported because this is a high profile issue for consumers and textiles are imported from ‘high risk countries’.” stated in an early stakeholder meeting in 2012 and referenced in the Technical report for the textiles. Further “The criteria is concerned more with manufacturing sites in developing countries.” was stated in a stakeholder meeting one year ago. So it really seems that the requirement for third party verification is not that relevant for manufacturing of AHPs, with quite a number of suppliers and production within the EU. Perhaps the wording could be changed on this point so that the requirement for third party verification applies only to products/components manufactured outside the EU.

are under direct operational control of the applicant.