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## ANNEX II

### **EU Ecolabel criteria for awarding the EU Ecolabel to tissue paper and tissue paper products**

#### **FRAMEWORK**

##### **The aims of the criteria**

The criteria aim, in particular, at reducing discharges of toxic or eutrophic substances into waters, reducing environmental damage or risks related to the use of energy (global warming, acidification, ozone depletion, depletion of non-renewable resources) by reducing energy consumption and related emissions to air, by reducing environmental damage through the reduction of emission to water and waste creation, by reducing environmental damage or risks related to the use of hazardous chemicals and by safeguarding forests by requiring the sourcing of recycled fibres or virgin fibres from forests and areas that are managed in a sustainable manner.

Criteria for awarding the EU Ecolabel to 'tissue paper and tissue paper products':

1. Emissions to water and air;
2. Energy use;
3. Fibres: conserving resources, sustainable forest management;
4. Restricted hazardous substances and mixtures;
5. Waste management;
6. Final product requirements;
7. Information appearing on the EU Ecolabel.

The ecological criteria cover the production of pulp, including all constituent sub-processes from the point at which the virgin or recycled fibre enters the production site, to the point at which the pulp leaves the pulp mill. For the paper production processes, the ecological criteria cover all sub-processes in the paper mill from pulp preparation for tissue paper making to winding onto the mother reel.

Energy use and emissions to water and air during the conversion of tissue paper into tissue paper products is not included. The ecological criteria do not cover the transport and packaging of the raw materials (e.g. wood), pulp or final paper product.

**Assessment and verification:** *the specific assessment and verification requirements are indicated within each criterion.*

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

*Competent bodies shall preferentially recognise attestations which are issued by bodies accredited according to the relevant harmonised standard for testing and calibration laboratories and verifications by bodies that are accredited according to*

*the relevant harmonised standard for testing and calibration laboratories and verifications by bodies that are accredited according to the relevant harmonised standard for bodies certifying products, processes and services.*

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

*Where appropriate, competent bodies may require supporting documentation and may carry out independent verifications or on-site inspections to check compliance with these criteria.*

*As a pre-requisite, the paper production site needs to meet all respective legal requirements of the country in which it is located. The tissue paper product needs to meet all respective requirements of the country where it is placed on the market. The applicant shall declare the product's compliance with this requirement.*

## EU ECOLABEL CRITERIA

### Criterion 1 — Emissions to water and air

#### Criterion 1(a) COD, Sulphur (S), NOx, Phosphorous (P)

The requirement is based on information on emissions in relation to a specified reference value. The ratio between actual emissions and the reference value translates into an emissions score.

The score for any individual emission parameter shall not exceed 1.3.

In all cases, the total number of points ( $P_{\text{total}} = P_{\text{COD}} + P_{\text{S}} + P_{\text{NOx}} + P_{\text{P}}$ ) shall not exceed 4,0.

In case of non-integrated production the applicant shall provide a calculation that includes pulp and paper production.

For pulp and paper making as a whole, the calculation of  $P_{\text{COD}}$  shall be made as follows (the calculations of  $P_{\text{S}}$ ,  $P_{\text{NOx}}$ ,  $P_{\text{P}}$  shall be made in exactly the same manner).

For each pulp 'i' used, the related measured COD emissions ( $\text{COD}_{\text{pulp}, i}$  expressed in kg/air dried tonne — ADT), shall be weighted according to the proportion of each pulp used (pulp 'i' with respect to air dried tonne of pulp), and summed together. Air dried tonne assumes a 90% dry matter content for pulp, and 95% for paper.

The weighted  $\text{COD}_{\text{emission}}$  for the pulps is then added to the measured  $\text{COD}_{\text{emission}}$  from the paper production to give a total  $\text{COD}_{\text{emission}}$ ,  $\text{COD}_{\text{total}}$ .

The weighted COD reference value for the pulp production shall be calculated in the same manner, as the sum of the weighted reference values for each pulp used and added to the reference value for the paper production to give a total  $\text{COD}_{\text{reference}}$  value  $\text{COD}_{\text{ref total}}$ . The reference values for each pulp type used and for the paper production are given in the Table 1.

Finally, the total COD emission shall be divided by the total COD reference value as follows:

$$P_{\text{COD}} = \frac{\text{COD}_{\text{total}}}{\text{COD}_{\text{ref, total}}} = \frac{\sum_{i=1}^n [\text{pulp}, i \times (\text{COD}_{\text{pulp}, i})] + \text{COD}_{\text{paper machine}}}{\sum_{i=1}^n [\text{pulp}, i \times (\text{COD}_{\text{ref pulp}, i})] + \text{COD}_{\text{ref paper machine}}}$$

**Table 1. Reference values for emissions from different pulp types and from paper production**

Pulp Grade/Paper	Emissions (kg/ADT)			
	$\text{COD}_{\text{reference}}$	$\text{P}_{\text{reference}}$	$\text{S}_{\text{reference}}$	$\text{NOx}_{\text{reference}}$
Bleached Chemical pulp (others than sulphite)	16	0,025 0,09 <sup>(1)</sup>	0,35	1,6
Bleached Chemical pulp (sulphite)	24	0.04	0,75	1,6
Magnefite pulp	28	0.056	0.75	1.6
Unbleached chemical pulp	6,5	0.016	0,35	1,6

Pulp Grade/Paper	Emissions (kg/ADT)			
	COD <sub>reference</sub>	P <sub>reference</sub>	S <sub>reference</sub>	NOx <sub>reference</sub>
CTMP /CMP	16	0.008	0.2	0,25 / 0.7 <sup>(2)</sup>
TMP/groundwood pulp	3/5.4 <sup>(3)</sup>	0.008	0.2	0.25
Recycled fibre pulp without de-inking	1.1	0.006	0.2	0.25
Recycled fibre pulp with de-inking	3.2	0.012	0.2	0.25
	Emission (kg/tonne)			
Tissue paper making	1,2	0,01	0.3	0,5
Structured tissue paper making	1.2	0.01	0.3	0.7

<sup>(1)</sup>Reference value for Eucalyptus pulp.

<sup>(2)</sup>NOx emission value for non-integrated CTMP mills using flash-drying of pulp with biomass-based steam

<sup>(3)</sup> COD value for the highly bleached mechanical pulp (70 – 100 % of fibre in final paper )

In cases where co-generation of heat and electricity occur at the same plant, the emissions of S and NOx resulting from onsite electricity generation can be subtracted from the total amount. The following equation can be used to calculate the proportion of the emissions resulting from electricity generation:

$$2 \times (MWh(electricity))/[2 \times MWh(electricity) + MWh(heat)]$$

The electricity in this calculation is the electricity produced at the co-generation plant. The heat in this calculation is the net heat delivered from the co-generation plant to the pulp/paper production.

**Assessment and verification:** the applicant shall provide detailed calculations and test data showing compliance with this criterion, together with related supporting documentation which shall include test reports using the following continuous or periodical monitoring standard test methods (or equivalent standard methods that are accepted by the Competent Body as providing data of equivalent scientific quality): COD: ISO 15705 or ISO 6060; NOx: EN 14792 or ISO 11564; S(oxid.): EN 14791: or EPA no.8; S(red.): EPA no 15A,16A or 16B; S content in oil: ISO 8754; S content in coal: ISO 19579; S content in biomass: EN 15289; Total P: EN ISO 6878.

Rapid tests can also be used to monitor emissions so long as they are checked regularly (e.g. monthly) against the relevant aforementioned standards or suitable equivalents. In the case of COD emissions, continuous monitoring by the analysis of TOC (Total Organic Carbon) shall be accepted so long as a correlation between TOC and COD results has been established for the site in question.

The minimum measurement frequency shall be daily for COD emissions and weekly for Total P emissions. Emissions of S and NOx shall be taken on a continuous basis (for emissions from boilers of capacity exceeding 50MW) or a periodic basis (at least once per year for boilers and driers of capacity less than 50MW each).

Data shall be reported as annual averages except in cases where:

- the production campaign is for a limited time period only,
- the production plant is new or has been rebuilt, in which case the measurements shall be based on at least 45 days subsequent days of stable running of the plant.

*In either case, data may only be accepted if it is representative of the respective campaign and that a sufficient number of measurements for each emission parameter have been made.*

*The supporting documentation shall include an indication of the measurement frequency and the calculation of the points for COD, Total P, S and NO<sub>x</sub>.*

*Emissions to air shall include all emissions of S and NO<sub>x</sub> which occur during the production of pulp and paper, including steam generated outside the production site, but subtracting any emissions allocated to the production of electricity. Measurements shall include recovery boilers, lime kilns, steam boilers and destructor furnaces for strong smelling gases. Diffuse emissions shall also be taken into account. Reported emission values for S to air shall include both oxidised and reduced S emissions. The S emissions related to the heat energy generation from oil, coal and other external fuels with known S content may be calculated instead of measured, and shall be taken into account.*

*Measurements of emissions to water shall be taken on unfiltered and unsettled samples at the effluent discharge point of the mills wastewater treatment plant. In cases where mill effluent is sent to a municipal or other third party wastewater treatment plant, unfiltered and unsettled samples from the mill effluent sewer discharge point shall be analysed and results multiplied by a standard removal efficiency factor for the municipal or third party wastewater treatment plant. The removal efficiency factor to apply shall be based on information provided by the operator of the municipal or other third party wastewater treatment plant.*

*For integrated mills, due to the difficulties in getting separate emission figures for pulp and paper, if only a combined figure for pulp and paper production is available, the emission values for pulp(s) shall be set to zero and the combined emissions shall be compared against the combined reference values for the relevant pulp and paper production*

### **Criterion 1(b) AOX**

The weighted average value of AOX released from the production of all pulps used in EU Ecolabel tissue paper shall not exceed 0,12 kg/ADT. The AOX emissions from the production of each pulp used shall not exceed 0,17 kg/ADT.

**Assessment and verification:** *the applicant shall provide test reports using the AOX ISO 9562 test method or equivalent methods, accompanied by detailed calculations showing compliance with this criterion and any related supporting documentation.*

*The applicant shall provide a declaration of compliance with this criterion, supported by a list of the different pulps used in the pulp mix, their respective weightings and their individual amount of AOX emissions, expressed as kg AOX/ADT pulp.*

*The supporting documentation shall include an indication of the measurement frequency. AOX shall only be measured in processes where chlorine compounds are used for the bleaching of the pulp. AOX need not be measured in the effluent from*

*non-integrated paper production or in the effluents from pulp production without bleaching or where the bleaching is performed with chlorine-free substances.*

*Measurements of AOX emissions to water shall be taken on unfiltered and unsettled samples at the effluent discharge point of the mills wastewater treatment plant. In cases where mill effluent is sent to a municipal or other third party wastewater treatment plant, unfiltered and unsettled samples from the mill effluent sewer discharge point shall be analysed and results multiplied by a standard removal efficiency factor for the municipal or third party wastewater treatment plant. The removal efficiency factor to apply shall be based on information provided by the operator of the municipal or other third party wastewater treatment plant.*

*The information on the emission shall be expressed as the annual average from measurements done at least once every two months. In case of a new or a re-built production plant, the measurements shall be based on at least 45 subsequent days of stable running of the plant. The measurement shall be representative of the respective campaign.*

*In case the applicant uses only non-ECF pulp, a corresponding declaration to the Competent Body is sufficient.*

### **Criterion 1(c) CO<sub>2</sub>**

*Note: The criterion refers to the sum total of CO<sub>2</sub> emission from pulp and paper manufacturing processes. Conversion is not included.*

The emission of carbon dioxide from fossil fuels used for the production of process heat and electricity (whether on-site or off-site) must not exceed the following limit values:

- 1200 kg CO<sub>2</sub>/tonne of conventional tissue paper
- 1850 kg CO<sub>2</sub>/tonne of structured tissue paper

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

*For each pulp used, a single CO<sub>2</sub> emission value shall be provided to the applicant by the pulp manufacturer, in units of kg CO<sub>2</sub>/ADT pulp. The applicant shall also provide a single CO<sub>2</sub> emission value for the relevant paper machine(s) used to produce EU Ecolabel tissue paper. For integrated mills, CO<sub>2</sub> emissions for pulp and paper production may be reported as a single value.*

*The CO<sub>2</sub> emission data shall include all sources of non-renewable fuels used during the production of pulp and paper, including the emissions from the production of electricity (whether on-site or off-site).*

*Emission factors for fuels shall be used according to Annex VI of Commission Regulation (EU) No 601/2012 of 21 June 2012 on the monitoring and reporting of greenhouse gas emissions.<sup>1</sup>*

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<sup>1</sup> OJ L 181, 12.7.2012, p. 30–104

*For grid electricity, an emission calculation factor of 384 (kg CO<sub>2</sub>/MWh) shall be used.*

*The period for the calculations or mass balances shall be based on the production during 12 months. In case of a new or a rebuilt production plant, the calculations shall be based on at least 45 subsequent days of stable running of the plant. The calculations shall be representative of the respective campaign.*

*For grid electricity, the value provided above (the European average) shall be used unless the applicant presents documentation establishing the average value for their suppliers of electricity (contracting supplier), in which case the applicant may use this value instead of the value quoted in the table.*

*The amount of energy from renewable sources purchased and used for the production processes will not be considered in the calculation of the CO<sub>2</sub> emissions. Appropriate documentation that this kind of energy is actually used at the mill or is externally purchased shall be provided by the applicant.*

### **Criterion 2 — Energy use**

The requirement is based on information on actual energy use during pulp and paper production in relation to specific reference values.

The energy consumption includes electricity and fuel consumption for heat production that shall be expressed in terms of points (P<sub>total</sub>) as detailed below.

The total number of points (P<sub>total</sub> = P<sub>E</sub> + P<sub>F</sub>) shall not exceed 2.5.

The reference values for the energy consumption calculation are given in Table 3.

In case of mixtures of pulps, the reference value for electricity and fuel consumption for heat production shall be weighted according to the proportion of each pulp used (pulp 'i' with respect to air dried tonne of pulp), and summed together.

### **Criterion 2(a) Electricity**

The electricity consumption related to pulp and paper production shall be expressed in terms of points (P<sub>E</sub>) as detailed below.

Calculation for pulp production: For each pulp i used, the related electricity consumption (E<sub>pulp,i</sub> expressed in kWh/ADT) shall be calculated as follows:

E<sub>pulp,i</sub> = Internally produced electricity + purchased electricity – sold electricity

Calculation for paper production: Similarly, the electricity consumption related to the paper production (E<sub>paper</sub>) shall be calculated as follows:

E<sub>paper</sub> = Internally produced electricity + purchased electricity – sold electricity

Finally, the points for pulp and paper production shall be combined to give the overall number of points (P<sub>E</sub>) as follows:

$$P_E = \frac{\sum_{i=1}^n [\text{pulp},i \times E_{\text{pulp},i}] + E_{\text{paper}}}{\sum_{i=1}^n [\text{pulp},i \times E_{\text{ref pulp},i}] + E_{\text{ref paper}}}$$



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

**Criterion 2(b) Fuel consumption for heat production**

The fuel consumption related to the pulp and the paper production shall be expressed in terms of points (P<sub>F</sub>) as detailed below.

Calculation for pulp production: For each pulp i used, the related fuel consumption (F<sub>pulp,i</sub> expressed in kWh/ADT) shall be calculated as follows:

$$F_{pulp,i} = \text{Internally produced fuel} + \text{purchased fuel} - \text{sold fuel} - 1,25 \times \text{internally produced electricity}$$

Note:

1. F<sub>pulp,i</sub> (and its contribution to P<sub>F</sub>, pulp) need not be calculated for mechanical pulp unless it is market air dried mechanical pulp containing at least 90 % dry matter.
2. The amount of fuel used to produce the sold heat shall be added to the term "sold fuel" in the equation above.

Calculation for paper production: similarly, the fuel consumption related to the paper production (F<sub>paper</sub>, expressed in kWh/ADT), shall be calculated as follows:

$$F_{paper} = \text{Internally produced fuel} + \text{purchased fuel} - \text{sold fuel} - 1,25 \times \text{internally produced electricity}$$

Finally, the points for pulp and paper production shall be combined to give the overall number of points (PF) as follows:

$$P_F = \frac{\sum_{i=1}^n [\text{pulp},i \times F_{pulp,i}] + F_{paper}}{\sum_{i=1}^n [\text{pulp},i \times F_{ref\,pulp,i}] + F_{ref\,paper}}$$

**Table 2. Reference values for electricity and fuel**

Pulp grade	Fuel kWh/ADT Preference		Electricity kWh/ADT Ereference	
	Non-admp	admp	Non-admp	admp
Chemical pulp	3 650	4 650	750	750
Thermomechanical pulp (TMP)	0	900	2 200	2 200
Groundwood pulp (including Pressurised Groundwood)	0	900	2 000	2 000
Chemithermomechanical pulp (CTMP)	0	800	1 800	1 800
Recycled pulp	350	1350	700	700
Paper grade	kWh/tonne			

Pulp grade	Fuel kWh/ADT Preference		Electricity kWh/ADT Ereference	
	Non-admp	admp	Non-admp	admp
Tissue paper	1950		950	
Structured tissue	3000		1500	
Admp = air dried market pulp				

**Assessment and Verification** (for both (a) and (b)): the applicant shall provide detailed calculations showing compliance with this criterion, together with all related supporting documentation. Reported details shall therefore include the total electricity and fuel consumption.

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

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

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

Where steam is generated using electricity as the heat source, the heat value of the steam shall be calculated, then divided by 0,8 and added to the total fuel consumption.

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

### **Criterion 3 — Fibres – conserving resources, sustainable forest management**

The fibre raw material may be recycled or virgin fibre.

Any virgin fibres shall not originate from GMO species.

All fibres shall be covered by valid chain of custody certificates issued by an independent third party certification scheme such as the Forest Stewardship Council (FSC), the Programme for the Endorsement of Forest Certification (PEFC) or equivalent or be covered by delivery invoices of Paper for Recycling according to EN 643.

At least 70% of the fibre material allocated to the product or production line shall originate from forests or areas managed according to Sustainable Forestry

Management principles that meet the requirements set out by the relevant independent chain of custody scheme and/or originate from recycled materials covered by EN 643 compliant delivery notes.

Excluded from the calculation of recycled fibre content is the reutilisation of waste materials that are capable of being reclaimed within the same process that generated it (i.e. paper machine broke — own produced or purchased). However, inputs of broke from conversion operations (own or purchased) may be considered as contributing towards the recycled fibre content.

Any uncertified virgin material 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 material.

The certification bodies issuing forest and/or chain of custody certificates shall be accredited or recognised by that certification scheme.

**Assessment and Verification:** *the applicant shall provide to the Competent Body a declaration of compliance supported by a valid, independently certified chain of custody certificate of the manufacturer of EU Ecolabel tissue paper and for all fibres used in the product or production line. FSC, PEFC or equivalent schemes shall be accepted as independent third party certification. Inputs of recycled materials from Paper for Recycling (PFR) may alternatively be covered by EN 643 delivery notes.*

*The applicant shall provide audited accounting documents that demonstrate that at least 70% of the materials allocated to the product or production line originate from forests or areas managed according to Sustainable Forestry Management principles that meet the requirements set out by the relevant independent chain of custody scheme and/or originate from recycled materials.*

*If the product or production line includes uncertified virgin material, proof shall be provided that the content of uncertified virgin material does not exceed 30% and is 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 material.*

*In case the certification scheme does not specifically require that all virgin material is sourced from non-GMO species, additional evidence shall be provided to demonstrate this.*

#### **Criterion 4 — Restricted hazardous substances and mixtures**

The basis for demonstrating compliance with each of the sub-criteria under criterion 4 shall be the applicant providing a list of all the relevant chemicals used together with appropriate documentation (Safety Data Sheet or a declaration from the chemical supplier).

#### **Criterion 4(a) Substance of Very High Concern (SVHC) restrictions**

*Note: Screening of all process and functional chemicals used in the paper mill and when relevant, during the tissue paper conversion process, shall be required. This*

*criterion does not apply to chemicals used for wastewater treatment unless the treated wastewater is recirculated back into the paper production process.*

The paper product shall not contain substances that have been identified according to the procedure described in Article 59(1) of Regulation (EC) No 1907/2006 and included in the Candidate List for Substances of Very High Concern (SVHCs) in concentrations greater than 0.10% (weight by weight). No derogation from this requirement shall be given.

**Assessment and verification:** *the applicant shall provide a declaration that the paper product does not contain any SVHC in concentrations greater than 0.10% (weight by weight). The declaration shall be supported by Safety Data Sheets (SDSs) or appropriate declarations from chemical suppliers of all process and functional chemicals used in the paper mill that show that none of the chemicals contain SVHCs in concentrations greater than 0.10% (weight by weight).*

*The list of substances identified as SVHCs and included in the candidate list in accordance with Article 59 of Regulation (EC) No 1907/2006 can be found here:*

*[http://echa.europa.eu/chem\\_data/authorisation\\_process/candidate\\_list\\_table\\_en.asp](http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp)*

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

#### **Criterion 4(b) CLP restrictions**

*Note: Screening of all process and functional chemicals used in the paper mill and when relevant, during the tissue paper conversion process, shall be required. This criterion does not apply to chemicals used for wastewater treatment unless the treated wastewater is recirculated back into the paper production process.*

Unless specifically derogated in Table 3, the paper product shall not contain substances or mixtures in concentrations greater than 0.10% (weight by weight) that are classified with any of the following hazard statements in accordance with Regulation (EC) No 1272/2008:

- Group 1 hazards: Category 1A or 1B Carcinogenic, Mutagenic and/or Toxic for Reproduction (CMR): H340, H350, H350i, H360, H360F, H360D, H360FD, H360Fd, H360Df
- Group 2 hazards: Category 2 CMR: H341, H351, H361, H361f, H361d, H361fd, H362; Category 1 aquatic toxicity: H400, H410; Category 1 and 2 acute toxicity: H300, H310, H330; Category 1 aspiration toxicity: H304; Category 1 Specific Target Organ Toxicity (STOT): H370, H372, Category 1 Skin Sensitizer\*: H317.
- Group 3 hazards: Category 2, 3 and 4 aquatic toxicity: H411, H412, H413; Category 3 acute toxicity: H301, H311, H331; Category 2 STOT: H371, H373.

\*H317 restrictions shall only apply to commercial dye formulations, surface finishing agents, and coating materials applied to paper.

The use of substances or mixtures that are chemically modified during the paper production process (e.g. inorganic flocculating agents, cross-linking agents, inorganic oxidising and reducing agents etc.) so that any relevant restricted CLP hazard no longer applies shall be exempted from the above requirement.

**Table 3. Derogations to the CLP hazard restrictions and applicable conditions**

Substance / mixture type	Applicability	Derogated classification(s)	Derogation conditions
Dyes and pigments	Used in wet end or surface application during the production of coloured paper.	H411, H412, H413	The chemical supplier shall declare that a fixation rate of 98% can be achieved on the paper and provide instructions about how this can be ensured.  The paper producer shall provide a declaration of compliance with any relevant instructions.
Wet Strength Agents	Use as retention agents, to improve runnability or to impart wet strength to the product.	H411, H412, H413	The combined residual monomer content of epichlorohydrin (ECH, CAS No 106-89-8) and its breakdown products 1,3-dichloro-2-propanol (DCP, CAS No 96-23-1) and 3-monochloro-1,2-propanediol (MCPD, CAS No 96-24-2) must not exceed 0.35% (w/w) of the active solids content of the formulation.
Cationic polymers (including polyethyleneimines, polyamides and polyamines)	Various uses possible which include use as retention aids; improve wet-web strength, dry strength and wet strength.	H411, H412, H413	The paper producer shall provide a declaration of compliance with any relevant instructions for safe handling and dosing specified in the Safety Data Sheet.

**Assessment and verification:** the applicant shall provide a list of all relevant chemicals used together with the relevant Safety Data Sheet or supplier declaration.

Any chemicals containing substances or mixtures with restricted CLP classifications shall be highlighted. The approximate dosing rate of the chemical, together with the concentration of the restricted substance or mixture in that chemical (as provided in the Safety Data Sheet or supplier declaration) and an assumed retention factor of 100% shall be used to estimate the quantity of the restricted substance or mixture remaining in the final product.

Justifications for any deviation from a retention factor of 100% or for chemical modification of a restricted hazardous substance or mixture must be provided in writing to the Competent Body.

For any restricted substances or mixtures that exceed 0.10% (weight by weight) of the final paper product but are derogated, proof of compliance with the relevant derogation conditions shall be provided.

#### **Criterion 4(c) Chlorine**

*Note:* This requirement shall apply to the pulp and paper producers. While this requirement also applies to the bleaching of recycled fibres, it is accepted that the fibres in their previous life-cycle may have been bleached with chlorine gas.

Chlorine gas shall not be used as a bleaching agent. This requirement does not apply to chlorine gas related to the production and use of chlorine dioxide.

**Assessment and verification:** *the applicant shall provide a declaration that chlorine gas has not been used as a bleaching agent in the paper production process, together with declarations from any relevant pulp suppliers.*

#### **Criterion 4(d) APEOs**

*Note: This requirement shall apply to the pulp and paper producers.*

Alkylphenol ethoxylates or other alkylphenol derivatives shall not be added to cleaning chemicals, de-inking chemicals, foam inhibitors or dispersants. Alkylphenol derivatives are defined as substances that upon degradation produce alkyl phenols.

**Assessment and verification:** *the applicant shall provide a declaration(s) from their chemical supplier(s) that alkylphenol ethoxylates or other alkylphenol derivatives have not been added to these products.*

#### **Criterion 4(e) Surfactants used in deinking**

*Note: This requirement shall apply to the producer(s) of deinked pulp.*

All surfactants used in deinking processes shall demonstrate ready or inherent ultimate biodegradability (see test methods and pass levels below). The only exemption to this requirement shall be the use of surfactants based on silicone derivatives upon the condition that paper sludge from the deinking process is incinerated.

**Assessment and verification:** *the applicant shall provide a declaration of compliance with this criterion together with the relevant safety data sheets or test reports for each surfactant which shall indicate the test method, threshold and conclusion reached, using one of the following test methods and pass levels:*

- *For ready biodegradability: OECD No 301 A-F (or equivalent ISO standards) with a percentage degradation (including absorption) within 28 days of at least 70% for 301 A and E, and of at least 60% for 301 B, C, D and F.*
- *For inherent ultimate biodegradability: OECD 302 A-C (or equivalent ISO standards), with a percentage degradation (including adsorption) within 28 days of at least 70 % for 302 A and B, and of at least 60 % for 302 C.*

*In cases where silicone-based surfactants are used, the applicant shall provide a Safety Data Sheet for the chemicals used and a declaration that paper sludge from the deinking process is incinerated, including details of the destination incineration facility or facilities.*

#### **Criterion 4(f) Biocidal product restrictions for slime control**

*Note: This requirement shall apply to the paper producer.*

The active substances in biocidal products used to counter slime-forming organisms in circulation water systems containing fibres shall have been approved for this purpose, or be under examination pending a decision on approval, under Regulation (EU) No 528/2012 and shall not be potentially bio-accumulative.

For the purposes of this criterion, the potential to bio-accumulate shall be characterised by log Kow (log octanol/water partition coefficient)  $\leq 3,0$  or an experimentally determined bioconcentration factor (BCF)  $\leq 100$ .

**Assessment and verification:** *the applicant shall provide a declaration of compliance with this criterion together with the relevant material safety data sheet or test report which shall indicate the test method, threshold and conclusion reached, using the following test methods: OECD 107, 117 or 305 A-E.*

#### **Criterion 4(g) Azo dye restrictions**

*Note: This requirement shall apply to the paper producer.*

Azo dyes, which by reductive cleavage of one or more azo groups, may release one or more of the aromatic amines listed in Directive 2002/61/EC, or Regulation (EC) No 1907/2006 Annex XVII, Appendix 8, shall not be used in the production of EU Ecolabel tissue paper.

**Assessment and verification:** *the applicant shall provide a declaration of compliance with this criterion from the supplier(s) of all colorants used in the production process for EU Ecolabel tissue paper products. The colourant supplier declaration should be supported by test reports according to the appropriate methods described Appendix 10 or Annex XVII or Regulation (EC) No 1907/2006 or equivalent methods.*

#### **Criterion 4(h) Metal-based pigments and dyes**

*Note: This requirement shall apply to the paper producer or, where relevant, to the tissue paper converter. See definition of metal complex dye stuffs in Article 3(15) of the Act for this Decision.*

Dyes or pigments based on: aluminium\*, silver, arsenic, barium, cadmium, cobalt, chromium, mercury, manganese, nickel, lead, selenium, antimony, tin or zinc shall not be used.

\*The restriction for aluminium shall not apply to aluminosilicates.

**Assessment and verification:** *the applicant shall provide a declaration of compliance with the requirements of this criterion from the supplier(s) of all colourants used in the production process for EU Ecolabel tissue paper products. The supplier declaration(s) shall be supported by safety data sheets or other relevant documentation.*

#### **Criterion 4(i) Ionic impurities in dye stuffs**

*Note: This requirement shall apply to the paper producer or, where relevant, to the tissue paper converter.*

The levels of ionic impurities in the dyestuffs used shall not exceed the following limits: Silver 100 ppm; Arsenic 50 ppm; Barium 100 ppm; Cadmium 20 ppm; Cobalt 500 ppm; Chromium 100 ppm; Mercury 4 ppm; Nickel 200 ppm; Lead 100 ppm; Selenium 20 ppm; Antimony 50 ppm; Tin 250 ppm; Zinc 1,500 ppm.

**Assessment and verification:** *the applicant shall provide a declaration of compliance with the requirements of this criterion from the supplier(s) of all colourants used in*

*the production process for EU Ecolabel tissue paper. The supplier declaration(s) shall be supported by safety data sheets or other relevant documentation.*

#### **Criterion 4(j) Wet Strength Agents**

*Note: This requirement shall apply to the paper producer.*

Wet strength agents that contain glyoxal must not be used in the production of EU Ecolabel tissue paper.

**Assessment and verification:** *the applicant shall provide a declaration from the relevant chemical supplier(s) that glyoxal has not been intentionally added to the chemical formulation for any wet strength agents that are used.*

#### **Criterion 5 — Waste Management**

All pulp and paper production sites shall have a system in place for the handling of waste arising from the production process and a waste management and minimisation plan that describes the production process and includes information on the following aspects:

- Procedures in place for waste prevention;
- Procedures in place for waste separation, reuse, and recycling;
- Procedures in place for the safe handling of hazardous waste;
- Continuous improvement objectives and targets relating to the reduction of waste generation and the increase of reuse and recycling rates.

**Assessment and verification:** *the applicant shall provide a waste minimisation and management plan for each of the sites concerned and a declaration of compliance with the criterion.*

*Applicants registered with EMAS and/or certified according to ISO 14001 shall be considered as having fulfilled this criterion if:*

- *the inclusion of waste management is documented in the EMAS environmental statement for the production site(s), or*
- *the inclusion of waste management is sufficiently addressed by the ISO 14001 certification for the production site(s).*

#### **Criterion 6 — Final product requirements**

##### **Criterion 6(a) Dyes and optical brighteners**

For dyed tissue paper, good fastness (level 4 or higher) shall be demonstrated according to the short procedure defined in EN 646.

For tissue paper treated with optical brightening agents, good fastness (level 4 or higher) shall be demonstrated according to the short procedure defined in EN 648.

**Assessment and verification:** *The applicant shall provide a declaration stating if dyes or optical brightening agents have been used. Compliance with these requirements*



*shall be supported by relevant test reports in accordance with standards EN 646 and/or EN 648, as appropriate.*

#### ***Criterion 6(b) Slimicides and antimicrobial substances***

Samples of the final tissue paper product shall not result in the growth inhibition of micro-organisms according to EN 1104.

***Assessment and verification:*** *The applicant shall provide a declaration of compliance, supported by relevant test reports in accordance with EN 1104.*

#### ***Criterion 6(c) Product safety***

Any final tissue paper product that contains recycled fibre shall not contain any of the following hazardous substances above the specified limits and according to the specified test standards:

- Formaldehyde: 1 mg/dm<sup>2</sup> according to EN 1541 (cold water extraction).
- Glyoxal: 1.5 mg/dm<sup>2</sup> according to DIN 54603.
- PCP: 2 mg/kg according to EN ISO 15320 (cold water extraction).

***Assessment and verification:*** *The applicant shall provide a declaration of compliance, supported by relevant test reports in accordance with the respective standards.*

#### ***Criterion 6(d) Fitness for use***

The EU Ecolabel tissue paper product needs to meet all respective requirements of the country where it is placed on the market. For structured tissue paper the absorbency of the individual base sheet of tissue paper before conversion shall be equal to or higher than 10.0 g water/g tissue paper.

***Assessment and verification:*** *the applicant shall provide appropriate documentation demonstrating compliance with the criteria.*

*The producers shall guarantee the fitness for use of their products providing appropriate documentation demonstrating the paper quality, in accordance with the standard EN ISO/IEC 17050-1:2004, which provides general criteria for suppliers' declaration of conformity with normative documents.*

*For structured tissue paper the applicant shall provide a declaration of compliance with the requirement, supported by relevant test report in accordance with EN ISO 12625-8:2010.*

### **Criterion 7 — Information appearing on the EU Ecolabel**

The applicant shall follow the instructions on how to properly use the EU Ecolabel logo provided in the EU Ecolabel Logo Guidelines:

[http://ec.europa.eu/environment/ecolabel/documents/logo\\_guidelines.pdf](http://ec.europa.eu/environment/ecolabel/documents/logo_guidelines.pdf)

If the optional label with text box is used, it shall contain the 3 following statements:

- Low emissions to air and water during production
- Low energy use during production
- Sustainably sourced fibres / xx% recycled fibres (as appropriate)

**Assessment and verification:** *the applicant shall provide a declaration of compliance with this criterion, supported by an image of the product packaging that clearly shows the label, the registration/license number and, as relevant, the statements that can be displayed together with the label.*

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