

ANNEX II***Tissue paper and tissue paper product*****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 applying sustainable management principles in order to safeguard forests.

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

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 requirement;
7. Information appearing on the EU Ecolabel Packaging;

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. The ecological criteria cover all sub-processes in the paper mill from pulp preparation for tissue paper making to winding onto mother reel and/or conversion into the tissue paper product.

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 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 product must meet all respective legal requirements of the country (countries) in which the production site is located. The applicant shall declare the product's compliance with this requirement.

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EU ECOLABEL CRITERIA

Criterion 1 — Emissions to water and air

Criterion 1(a) COD, Sulphur (S), NO_x, 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 to an emissions score.

The score for any individual emission parameter shall not exceed 1.3 unless exceptional circumstances justify an individual score for one particular parameter being up to 1.5.

In all cases, the total number of points ($P_{\text{total}} = P_{\text{COD}} + P_{\text{S}} + P_{\text{NO}_x} + P_{\text{P}}$) shall not exceed 4,0.

Proposal II

The total number of points ($P_{\text{total}} = P_{\text{COD}} + P_{\text{S}} + P_{\text{NO}_x} + P_{\text{P}}$) shall not exceed 4,0.

Where pulp is the end product, the paper making factors shall be set to zero. In case of non-integrated production the applicant shall provide calculation that includes pulp and paper production.

For pulp and paper making as a whole, the calculation of P_{COD} shall be made as follows (the calculations of P_{S} , P_{NO_x} , P_{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 COD emission for the pulps is then added to the measured COD emission from the paper production to give a total COD 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 COD 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)			
	COD _{reference}	P _{reference}	S _{reference}	NO _x _{reference}

Pulp Grade/Paper	Emissions (kg/ADT)			
	COD _{reference}	P _{reference}	S _{reference}	NOx _{reference}
Bleached Chemical pulp (others than sulphite)	16	0,025 0,09 ⁽¹⁾	0,35	1,6
Bleached Chemical pulp (sulphite)	24	0.04	0,35	1,6
Unbleached chemical pulp	6,5	0.016	0,35	1,6
CTMP /CMP	16	0.008	0.2	0,25 / 0.7 ⁽²⁾
TMP/groundwood pulp	3	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	1,2	0,01	0,3	0,5

⁽¹⁾Reference value unless condition that it is demonstrated that the higher level of P is due to P naturally occurring in the wood pulp.

⁽²⁾NOx emission value for non-integrated CTMP mills using flash-drying of pulp with biomass-based steam and recovery of impregnation chemicals

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:

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

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 power 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 provide data of equivalent scientific quality): COD: ISO 15075 or ISO 6060; NOx: EN 14972 or ISO 11564; S(oxid.): EN 14971 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 NO_x shall be taken on a continuous or periodic basis. Data shall be averaged across a 12 month reporting period 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_x.

Emissions to air shall include all emissions of S and NO_x 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 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

This criterion refers to ECF pulp.

Proposal I

Unless separately specified, the AOX emissions from the production of each pulp used shall not exceed 0,16 kg/ADT.

The AOX emissions shall not exceed 0.17 kg/ADT when the total wood mix at the integrated mill contains at least 40% of chestnut or oak.

Proposal II

The weighted average value of AOX released from the productions of the pulps used in the eco-labelled tissue paper product must not exceed 0,14 kg/ADT paper. AOX emissions from each individual pulp used in the paper must not exceed 0,17 kg/ADT pulp.

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

In case of proposal I the applicant who is requesting the value of 0.17 kg/ADT shall provide a declaration of compliance supported by documentation that the mill has used at least 40% chestnut or oak.

In case of proposal II 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, the individual amount of AOX expressed as kg AOX/ADT pulp, and in case of mixing several pulps, also the amount of the sum together with test reports containing the results of AOX emissions to water.

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 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 municipal or other third party wastewater treatment plant.

The period for the measurements shall be based on the production during 12 months, reported as an average from monthly measurements. 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 1c) CO₂

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

- 1100 kg CO₂ /tonne paper for paper made from 100 % DIP/recycled pulp;

- 1000 kg CO₂ /tonne paper for paper made from 100 % chemical pulp;
- 1600 kg CO₂ /tonne paper for paper made from 100 % mechanical pulp;
- 1100 kg CO₂/tonne of conventional tissue paper
- 1320 kg CO₂/tonne of structured tissue paper

Assessment and verification: the applicant shall provide data on the CO₂ emissions into air and provide detailed calculations showing compliance with this criterion, together with related supporting documentation.

For paper comprising of a mixture of cellulose pulp, recycled fibre and mechanical pulp, a weighted limit value is calculated, based on the proportion of each pulp type. The emissions shall be calculated as the sum of the emissions from the pulp and paper production taking into account the mix of pulps used.

For paper mill, the CO₂ emission of individual pulps shall be gathered from the pulp manufacturer.

The data shall include all sources of non-renewable fuels during the production of pulp and paper, including the emissions from the production of electricity (whether on-site or off-site).

The following emission factors shall be used in the calculation of the CO₂ emissions from fuels:

Fuel	CO ₂ fossil emission	Unit
Coal	96	g CO ₂ fossil/MJ
Crude oil	73	g CO ₂ fossil/MJ
Fuel oil 1	74	g CO ₂ fossil/MJ
Fuel oil 2-5	77	g CO ₂ fossil/MJ
LPG	63	g CO ₂ fossil/MJ
Natural Gas	56	g CO ₂ fossil/MJ
Grid Electricity	384	g CO ₂ fossil/kWh

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

The amount of energy from renewable sources (1) purchased and used for the production processes will not be considered in the calculation of the CO₂ 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 in production in relation to a specified reference values.

The energy consumption includes electricity and fuel consumption for heat production that shall be expressed in terms of points (P_{total}) as detailed below.

The total number of points (P_{total} = P_E + P_F) shall not exceed 2.5.

For structured tissue paper the total number of points (P_{total} = P_E + P_F) shall not exceed 3.0.

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 the pulp and the paper production shall be expressed in terms of points (P_E) as detailed below.

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

E_{pulp,i} = Internally produced electricity + purchased electricity – sold electricity

Calculation for paper production: Similarly, the electricity consumption related to the paper production (E_{paper}) shall be calculated as follows:

E_{paper} = 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_E) 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_F) as detailed below.

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

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

Note:

1. $F_{pulp,i}$ (and its contribution to P_F , 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_{paper} , 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 3. 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	1 900	1 900
Recovered fibre pulp	1700	2700	900	900
Paper grade	kWh/tonne		kWh/tonne	
Tissue paper		1750		900
Structured tissue		3400		1600
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 recovered paper. 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 in the paper may be recycled or virgin fibre.

Virgin fibres shall be legally sourced and not originate from genetically modified organisms (GMO) and 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.

All virgin fibre shall be covered by valid sustainable forest management certificates issued by an independent third party certification scheme such as FSC, PEFC or equivalent.

Excluded from the calculation of recovered fibre content is the reutilisation of waste materials that are capable of being reclaimed within the same process that generated it (i.e. mill broke — own produced or purchased).

Where a certification scheme allows the mixing of uncertified fibres with certified and/or recovered fibres in a product or production line, a minimum of 70% of the fibre shall be sustainable certified virgin fibres and/or recovered fibres.

Any uncertified 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 appropriate documentation indicating the types and quantities of fibres used in the pulp and the paper production, including valid chain of custody certificates for the manufacturer of the end product and for all virgin fibres used in the product or production line.*

Where virgin fibres are used, the applicant shall provide copies of a valid forest management certificate issued by an independent third party certification scheme, such as PEFC, FSC or equivalent.

The applicant shall provide audited accounting documents that demonstrate that at least 70% of the fibre materials originate from forests or areas managed according to Sustainable Forestry Management principles and/or from recovered materials that meet the requirements set out by the relevant independent chain of custody scheme. FSC, PEFC or equivalent schemes shall be accepted as independent third party certification.

Where recovered fibres are used, the applicant shall provide a declaration stating the average amount of grades of Paper for Recycling (PFR) used for the product in accordance with EN 643 or an equivalent standard and accounting for any yield losses during the conversion of PFR into recovered fibre pulp. The applicant shall provide a declaration that no mill broke (own or purchased) was counted towards the recovered fibre content.

If the product or production line includes uncertified material, proof shall be provided that the content of uncertified 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.

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 chemical products used in the pulp and paper production process, together with appropriate documentation, such as Safety Data Sheets (SDSs). This list shall include the approximate quantities used per production volume, their function and the stage(s) in the process where they are used.

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

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 SVHCs in concentrations higher than 0.10% (weight by weight). No derogation from this requirement shall be given.

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

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

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

The applicant shall prove compliance with this criterion by providing Safety Data Sheets (SDSs) that are in accordance with Article 31 of Regulation (EC) No 1907/2006 and showing that no SVHCs are listed in any SDS. In cases where a SVHC is listed in a SDS of a chemical used in the pulp or paper production process, data on the amount (kg/ADT paper produced) of SVHCs used in the process shall be provided. Unless demonstrated otherwise, it shall be assumed that 100% of any ingoing SVHCs remain in the final paper product.

Criterion 4b) CLP restrictions

Unless otherwise derogated, the paper product shall not contain any substances or mixtures in concentrations higher than 0.10% (weight by weight) which, in accordance with Regulation (EC) No 1272/2008, meet the criteria for classification with any of the hazard statements specified below:

- 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 apply specifically to commercial dye formulations, surface finishing agents and coating materials applied to paper.

Assessment and verification: the applicant shall prove compliance with these criteria by providing Safety Data Sheets (SDSs) in accordance with Article 31 of Regulation (EC) No 1907/2006 for all the chemicals used in the production process. Where a substance or mixture with a restricted CLP classification is identified, data on the amount (kg/ADT paper produced) of the restricted substance or mixture used shall be provided. If the concentration of the restricted substance of mixture exceeds 0.10% (weight by weight) of the final paper product (with the worst case assumption that 100% of the added restricted substance or mixture is retained in final product) then it will be necessary to demonstrate that the restricted hazardous substance or mixture reacts to form a non-hazardous product and/or is removed from the final product during the production process to the extent that its presence in the final product will be less than 0.10% (weight by weight). Where the presence of a restricted substance or mixture in the final product may still exceed 0.10% (weight by weight), the final product shall be considered to fail this criterion unless the use of the restricted substance or mixture is specifically derogated in Table 4.

Table 4. Derogations to the CLP hazard restrictions and applicable conditions

Substance / mixture type	Applicability	Derogated classification(s)	Derogation conditions
Wet strength agents based on epichlorohydrin resins.	Use in the paper mill for all types of tissue paper	H411, H412, H413 (of the formulation)	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.
Auxiliary chemicals based on epichlorohydrin resins.	Use in the Yankee cylinder for all types of tissue paper.	H411, H412, H413 (of the formulation)	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 0.05% (w/w) of the active solids content of the formulation.
Polyamide and polyamine based cationic polymers	Various uses in the paper mill (e.g. for all types of tissue paper.	H411, H412, H413 (of the formulation)	Where applicable, the residual acrylamide content of polyamide shall not exceed 0.07% (w/w) of the active solids content of the formulation.
Softeners containing quaternary imidazoline	??-Nordic	H400, H410, H411, H412, H413 (of the individual substances)	??-Possible derogation conditions to be discussed – e.g. link to any final product requirement? Upper limit for quantities used or fixation efficiency?
Dyes	For use in printed or coloured tissue paper.	H400, H410, H411, H412, H413 (of the individual substance)	A fixation rate of at least 98% can be demonstrated.
OBAs?			Potentially same approach as for dyes

Criterion 4c): Chlorine

(In cases of non-integrated production, this requirement applies only to the pulp producer)

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 from the pulp producer(s) that chlorine gas has not been used as a bleaching agent. Note: 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.

Criterion 4d) APEOs

(In cases of non-integrated production, this requirement applies to both pulp and paper producers)

Alkylphenol ethoxylates or other alkylphenol derivatives shall not be added to cleaning chemicals, de-inking chemicals, foam inhibitors, dispersants or coatings. 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.*

4e) Surfactants

(In cases of non-integrated production, this requirement applies to the deinked pulp producer).

All surfactants used in deinking processes shall demonstrate ready or inherent ultimate biodegradability (see test methods and pass levels below). The only exception 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 stated, using one of the following test method 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 incineration plant or plants.

4f) Biocidal product restrictions for slime control

(In cases of non-integrated production, this requirement applies only 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, or 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) > 3,0 or an experimentally determined bioconcentration factor (BCF) > 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.*

4g) Azo dye restrictions

(In cases of non-integrated production, this requirement applies only to the paper producer unless the pulp has been dyed for some reason prior to delivery).

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 be avoided in EU Ecolabel 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 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.*

4h) Metal complex dye stuffs or pigments

(In cases of non-integrated production, this requirement applies only to the paper producer unless the pulp has been dyed for some reason prior to delivery).

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

The restriction for copper shall be exempted in the case of copper phthalocyanine and for clarity the restriction of aluminium is not intended to apply to aluminosilicates.

Assessment and verification: *the applicant shall provide a declaration of compliance with the requirements of this criterion, supported by safety data sheets or other relevant documentation from chemical suppliers.*

4i) Ionic impurities in dye stuffs

(In cases of non-integrated production, this requirement applies only to the paper producer unless the pulp has been dyed for some reason prior to delivery).

The levels of ionic impurities in the dyestuffs used shall not exceed the following: Silver 100 ppm; Arsenic 50 ppm; Barium 100 ppm; Cadmium 20 ppm; Cobalt 500 ppm; Chromium 100 ppm; Copper 250 ppm; Fe 2,500 ppm; Mercury 4 ppm; Manganese 1,000 ppm; Nickel 200 ppm; Lead 100 ppm; Selenium 20 ppm; Antimony 50 ppm; Tin 250 ppm; Zinc 1,500 ppm.

The restriction for copper impurities shall not apply to dye stuffs based on copper phthalocyanine.

Assessment and verification: the applicant shall provide a declaration of compliance with the requirements of this criterion, supported by safety data sheets or other relevant documentation from chemical suppliers.

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 production waste prevention;
- Procedures in place for production 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 in the scope of EMAS is documented in the EMAS environmental statement, or

- the inclusion of waste management is addressed by the ISO 14001 certification.

Criterion 6: Final product requirements

6a) Dyes and optical brighteners

Toilet paper shall not be printed with any dye. (?)

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.

6b) 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.

6c) Product safety

The final tissue paper product shall not contain any of the following hazardous substances above the specified limits and according to the specified test standards:

- Formaldehyde: 1 mg/dm² according to EN 1541 (cold water extraction).
- Glyoxal: 1.5 mg/dm² 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.

6d) Fitness for use

The paper product shall be suitable for its purpose.

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.

As alternative to the use of the above methods, 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 EU Ecolabel logo and the registration/license number shall appear on the final product packaging.

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

- Low emissions to air and water,
- Uses sustainably sourced fibres,
- Low greenhouse gas emissions and energy use,
- Use of hazardous substances restricted'

The guidelines for the use of the optional label with the text box can be found in the Guidelines for use of the Ecolabel logo on the website:

<http://ec.europa.eu/environment/ecolabel/promo/pdf/logo%20guidelines.pdf>

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

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