

Nordic Ecolabelling for

Tissue Paper and Tissue Products– Supplementary Module



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Contents

Why choose the Nordic Swan Ecolabel?	3
What can carry the Nordic Swan Ecolabel?	3
How to apply.....	4
1 Definitions	6
2 Environmental requirements.....	7
2.1 Information about production.....	7
2.2 Energy and greenhouse gases	8
2.3 Emissions to water and air	10
2.4 Product safety and quality	11
2.4.1 Chemicals	11
2.4.2 Product function.....	14
2.5 Packaging	14
3 Licence maintenance.....	16
Regulations for the Nordic Ecolabelling of products	17
Follow-up inspections	17
Criteria version history	17
New criteria	17
Appendix 1 Softeners	
Appendix 2 Chloro-organic compounds in wet strength agents and auxiliary chemicals	
Appendix 3 Additives in the finished tissue product	
Appendix 4 Declaration from packaging manufacturer	

005 Tissue Paper and Tissue Products, version 6.0, 21 December 2022

Addresses

In 1989, the Nordic Council of Ministers decided to introduce a voluntary official ecolabel, the Nordic Swan Ecolabel. These organisations/companies operate the Nordic Ecolabelling system on behalf of their own country's government. For more information, see the websites:

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What is Nordic Swan Ecolabelled tissue paper or a tissue product?

The Nordic Swan Ecolabel on a tissue paper and tissue product signifies that the product meets strict environmental requirements. This means that the paper has minimal environmental and climate impact throughout its lifecycle.

Nordic Swan Ecolabelled tissue paper and tissue product:

- Is manufactured in a climate- and energy efficient way, with reduced energy consumption and reduced emissions of greenhouse gases. This means that fossil oil and coal are excluded in production
- Is made of traceable fibres from controlled sources. At least 70 % of the fibres must come from certified products or be recycled.
- Generates less emissions to air and water during production.
- Meets strict requirements concerning chemicals that are hazardous to health and harmful to the environment.

Why choose the Nordic Swan Ecolabel?

- Tissue paper and tissue products may use the Nordic Swan Ecolabel trademark for marketing. The Nordic Swan Ecolabel is a very well-known and well-reputed trademark in the Nordic region.
- The Nordic Swan Ecolabel is a simple way of communicating environmental work and commitment to customers.
- The Nordic Swan Ecolabel clarifies the most important environmental impacts and thus shows how a company can cut emissions, resource consumption and waste management.
- Environmentally suitable operations prepare tissue paper for future environmental legislation.
- Nordic Ecolabelling can be seen as providing a business with guidance on the work of environmental improvements.
- The Nordic Swan Ecolabel not only covers environmental issues but also quality requirements, since the environment and quality often go hand in hand. This means that a Nordic Swan Ecolabel licence can also be seen as a mark of quality.

What can carry the Nordic Swan Ecolabel?

Cellulose-based tissue paper and tissue products made from virgin and/or recycled fibres may be licensed to carry the Nordic Swan Ecolabel. This means that, for example, toilet paper, kitchen and household towels, napkins, hand towels, facial tissue and handkerchiefs can be Nordic Swan Ecolabelled.

The product group shall not include:

- Fragranced tissue products
- Tissue products containing cleaning agents designed for the cleaning of surfaces (e.g. floor cleaning agents).
- Structured paper¹
- Products that contain viscose or that are laminated with non-cellulose based material or cellulose fibre-based material such as e.g. bio-based plastics. Several of these products are covered by criteria for Nordic Ecolabelling of Sanitary Products.
- Cosmetic products within the Regulation (EC) No 1223/2009 of the European Parliament and of the Council (8), including wet wipes; wet wipes may be labelled in accordance with the Criteria for Cosmetic Products, which specify that the paper material must fulfil the Nordic Swan Ecolabel or EU Ecolabel requirements on tissue paper.

Contact Nordic Ecolabelling for further information on the ecolabelling of such products.

How to apply

Application and costs

For information about the application process and fees for this product group, please refer to the respective national web site or <https://www.nordic-ecolabel.org/product-groups/group/?productGroupCode=005>. For addresses see page 2.




What is required?

The application must consist of an application form/web form and documentation showing that the requirements are fulfilled. Applications are to be submitted with the aid of the web-based application tool

Pulps used in the paper must be declared and listed at the Nordic Ecolabelling's website or in My Swan Account. The pulp producer is responsible for the application fee and annual listing fee for the pulp.

Each requirement is marked with the letter O (obligatory requirement) and a number. All requirements must be fulfilled to be awarded a licence.

The text describes how the applicant shall demonstrate fulfilment of each requirement. There are also icons in the text to make this clearer. These icons are:

-  Upload
-  State data in the web-based application tool
-  Requirement checked on site

¹ Base paper produced on a tissue machine using a structured fabric or belt.

All information submitted to Nordic Ecolabelling is treated confidentially. Suppliers can send documentation directly to Nordic Ecolabelling, and this will also be treated confidentially.

Licence validity

The Nordic Swan Ecolabel licence is valid provided that the criteria are fulfilled and until the criteria expire. The validity period of the criteria may be extended or adjusted, in which case the licence is automatically extended, and the licensee informed.

Revised criteria shall be published at least one year prior to the expiry of the present criteria. The licensee is then offered the opportunity to renew their licence.

On-site inspection

In connection with handling of the application, Nordic Ecolabelling normally performs an on-site inspection to ensure adherence to the requirements. For such an inspection, data used for calculations, original copies of submitted certificates, test records, purchase statistics, and similar documents that support the application must be available for examination.

Queries

Please contact Nordic Ecolabelling if you have any queries or require further information. See page 2 for addresses. Further information and assistance (such as calculation sheets or electronic application help) may be available. Visit the relevant national website or <https://www.nordic-ecolabel.org/product-groups/group/?productGroupCode=005> for further information.

1 Definitions

Term	Definition
ADt	Air dry tonne (ADt) is dry solid content of pulp and paper where specific chemical and energy consumption and emissions are expressed. ADt for pulp is 90%, while ADt for paper means a solid content of 94%
BCTMP	Bleached CTMP, see also CTMP.
Broke	Broke is waste from production (scrap, strips from cutting the rolls at the paper mill etc.) and is not classified as recycled fibre, see also recycled fibre.
MCPD	Monochloropropanediol (MCPD), see also ECH
COD	Chemical oxygen demand (COD) indicating the amount of chemically oxidisable organic matter in wastewater.
CTMP	Chemithermomechanical Pulp, see also BCTMP.
Coating	Yankee coating refers to auxiliary chemicals used to improve manufacturing conditions such as adhesion and release of paper web on the Yankee cylinder.
Coating in converting	Process to apply additives (chemicals, lotion) onto the tissue sheet during converting
Converting	Manufacturing of a tissue product by a process or operation applied after the papermaking process.
DCP	Dichloroisopropanol (DCP), see also ECH.
De-inked pulp	De-inked pulp (DIP) means pulp made from paper for recycling from which inks and other contaminants have been removed;
ECH	The wet strength agents used in paper are mainly polyamide-epichlorohydrin resins, which give the paper durable wet strength. A small amount of residual monomers, such as epichlorohydrin (ECH), and its reaction products Dichloroisopropanol (DCP) and Monochloropropanediol (MCPD), may be left in the paper product.
Fossil fuels	Coal, natural gas, peat and petroleum products (such as oil) from the decayed bodies of animals and plants that died millions of years ago.
Laminating	Process of joining together two or more plies of a tissue material (tissue paper web, tissue paper sheet) to form a multi-ply tissue product.
Plant based fibres	Cellulosic fibres such as those from wood and bamboo can be used in production of Nordic Swan Ecolabelled paper products. If fibres from other plants are included in the product group, contact Nordic Ecolabelling. Nordic Ecolabelling will determine which new fibres may be included in the product group.
Production chemical	Collective term for chemical products used during production of pulp and paper. It can refer to chemical additives, auxiliary chemicals and process chemicals. The term is further used to refer to starch, filler material and so on. Even wastewater treatment chemicals are included, see closely the Chemical Module.
Recycled fibre	Recycled material is defined in accordance with ISO 14021 in the following two categories. Material in the pre-consumer phase. Material that has been taken from the waste flow during the manufacturing process. The exception is the re-use of material that is generated in a process, e.g. waste that can be recycled within the same process that generated it. Material in the post-consumer phase. Material generated by households or by trade, industry or institutional facilities in their role as end-users of a product that can no longer be used for its intended purpose. This includes the return of materials from the distribution chain.
Residue	Residue means a substance that is not the end product(s) that a production process directly seeks to produce; it is not a primary aim of the production process and the process has not been deliberately modified to produce it.
Tip fuel	Tip fuel is peak load fuel that is only used for short periods, e.g. when it is really cold.
Tissue paper	Base paper taken from the tissue machine before conversion (typically between 10 g/m ² and 50 g/m ²), defined in accordance with ISO 12625-1.
Tissue product	Tissue paper that has been converted into a finished product for end-user purposes. defined in accordance with ISO 12625-1.
Wood fibre	Wood fibre may consist of virgin fibre from timber or sawmill chippings. Wood shavings and sawdust are residuals and not regarded as virgin fibres.

2 Environmental requirements


2.1 Information about production


O1 Description of the product

Applicant shall provide the following information about the tissue paper and tissue product(s):

- Name of the tissue paper and tissue product manufacturer.
- Trademark/trade name of the tissue paper and tissue product, type (as e.g. toilet paper, kitchen towel, napkins) and grammage (g/m^2) for which tissue paper(s) is/are available.
- Describe the manufacturing process for the product, including conversion and waste water treatment. State also annual production volumes.
- Compile a list of constituent materials, e.g. production chemicals, pulps and packaging materials used. In the case of production chemicals, report all production chemicals used in the production of paper and in conversion, providing documentation regarding the product's complete name, function, area of use in the mill, supplier and quantities used in kg/tonnes paper. For pulps, the production site must be stated.

The documentation required is to be submitted with the aid of the web-based application tool.


 Overview of the above points in the web-based application tool.


 Representative product samples are to be supplied upon request from Nordic Ecolabelling.

O2 Pulp

All pulps used in the manufacture of Nordic Swan Ecolabelled tissue paper and tissue products must meet the requirements stipulated in the Basic Module and the Chemical Module, generation 3 or later unless otherwise indicated in the requirements below. This also applies to on-site manufactured recycled and deinked pulp.

If the pulp has already been assessed by Nordic Ecolabelling, the requirement is fulfilled. State information on the trade name, production site and the manufacturer of the assessed pulp.

 Pulp assessed by Nordic Ecolabelling, enclose information on the trade name, production site and the manufacturer of the pulp.

 Pulp not assessed by Nordic Ecolabelling, **the pulp manufacturer** shall submit documentation required from the pulp mill with the aid of the web-based application tool.

O3 Tissue paper and tissue products

Manufacturing of the tissue paper and finished tissue product must meet the requirements of the Basic Module and the Chemical Module, generation 3 or later, where relevant, unless otherwise indicated in the requirements below. This also applies to converters (e.g. requirement for waste).

The core in the finished tissue product such as in toilet paper and kitchen rolls shall meet certification requirement O7 d) for Fibre raw material in the Basic Module, generation 3. The core must not be marketed as flushable.

- ☞ **The tissue paper and product manufacturer** shall submit documentation demonstrating compliance with relevant requirements in the Basic and Chemical Modules, generation 3 with the aid of the web-based application tool.
- ☞ **Tissue product manufacturer** shall submit documentation demonstrating that the requirement for core is fulfilled.

2.2 Energy and greenhouse gases

Energy consumption is regulated through requirements on fuel and electricity while fuel type used for production of heat is regulated by the greenhouse gas emission requirement. The requirements are based on information of actual energy use in production in relation to a specified reference value. The ratio between actual energy consumption and the reference value translates to an energy score.

The energy and emissions of CO_{2e} calculation encompasses the entire production process – both tissue paper manufacturing and the constituent pulp. Energy calculations do not include energy consumed during transport of raw materials or in tissue conversion and packaging. The paper manufacturer shall verify fulfilment of the requirements. Pulp manufacturers shall, however, provide details of energy use and greenhouse gas emissions to paper producer. See also Appendix 4 in the Basic Module, generation 3 where instructions for calculations are given.

04 Energy

The total electricity and fuel points scores for Nordic Swan Ecolabelled tissue paper and tissue product must be less than 2.3.

$$P_{\text{electricity_total}} < 2.3$$

$$P_{\text{fuel_total}} < 2.3$$

$P_{\text{electricity_total}}$ and $P_{\text{fuel_total}}$ include the energy scores from paper production and the pulps that are used.

A more detailed description of documentation requirements and calculation methods is provided in Appendix 4 of the Basic Module, generation 3 or later, in which $P_{\text{electricity}}$ and P_{fuel} are also defined.

The reference values for the manufacturing of tissue paper are set for consumption of fuel at 1750 kWh/ADt, and for electricity at 900 kWh/ADt.

For pulp derived from recycled fibre/de-inked pulp (DIP), use the reference values in Table 1.

Table 1 Energy for recycled fibre/de-inked pulp (DIP) manufacturing.

Process	Fuel kWh/ADt Reference value	Electricity kWh/ADt Reference value
Recycled fibre/DIP	300*	350*
Dried recycled fibre/DIP	1300	500

*In cases, where extensive washing loops including bleaching are applied, higher reference values can be used: 600 kWh/ADt for fuel and 600 kWh/ADt for electricity.

If steam from electric boilers is used, the energy content of steam must be converted to fuel. The energy of the steam is converted into fuel by multiplying the energy content of electricity by 1.25. The resulting amount of energy is added to the fuel consumption of the production. See closely Appendix 4 in the Basic Module, generation 3. In case of electrical hoods, electricity consumption is

multiplied by 1.25 and the resulting amount of energy is added to the fuel consumption of the production.

☞ **The tissue paper manufacturer** shall submit calculations in accordance with Appendix 4 of the Basic Module, generation 3 showing compliance with the limit values. Worst case calculations shall be enclosed to demonstrate that each pulp recipe meets the requirements in case pulp mixture specific calculations are not documented for each pulp mix. Nordic Ecolabelling also provides a spreadsheet that is to be used for these calculations.

☞ If higher reference values for DIP are applied, **the tissue paper manufacturer** shall report why the use of these values is necessary and what sub-processes including bleaching are used in the process.

05 Fossil fuels

Fossil oil and coal must not be used as fuels* for production of process heat in the tissue paper mill.

Necessary use of fossil oil e.g. in planned maintenance stops, emergency maintenance stops, as a reserve and tip fuel (peak load fuel) or at start-ups for regulation of the combustion temperature in a heat and co-generation boiler is allowed.

**Use of natural gas and liquefied petroleum gas (LPG) is allowed.*

☞ **The tissue paper manufacturer** shall confirm that fossil oil and/or coal are not used as fuels to produce process heat in the tissue paper mill.

☞ In case fossil oil is used as reserve or tip fuel, **tissue paper manufacturer** shall report why the use of fossil oil is necessary.

06 Emissions of greenhouse gases

Emissions of greenhouse gases from fuels and electricity used for production of process heat must not exceed 525 kg CO_{2e} /ADt paper. CO_{2e} calculations include emissions from production of both tissue paper and constituent pulps.

If process heat is generated by electricity, CO_{2e} emissions related to electricity are calculated by factor 231 g CO₂/kWh. However, if the greenhouse gas emission intensity of electricity generation given by European Environment Agency* indicates a higher emission calculation factor for the country where the tissue mill is located, this shall be used.

* https://www.eea.europa.eu/data-and-maps/daviz/co2-emission-intensity-10#tab-googlechartid_googlechartid_googlechartid_googlechartid_chart_11111

If steam from electric boilers is used, the energy content of steam must be converted to fuel. The energy of the steam is converted to fuel by multiplying the energy content of electricity by 1.25. See closely Appendix 4 in the Basic Module, generation 3.

☞ **The tissue paper manufacturer** shall submit calculations in accordance with Appendix 4 of the Basic Module, generation 3 to demonstrate fulfilment of the requirement. Nordic Ecolabelling also provides a spreadsheet that is to be used for these calculations.

2.3 Emissions to water and air

The requirements on emissions to water and air are structured in such a way that the tissue paper manufacturer calculates total emissions from pulp and tissue paper production. To do this, the tissue paper manufacturer will need information on the specific emissions from pulp production.

Measured emissions are compared with the reference values for emissions. The reference values for pulps can be found in Appendix 5 Table 5.1 in the Basic Module, generation 3 or later. Reference is made to these in the calculation of emission scores for individual emission parameters. The emission scores for chemical oxygen demand (COD), phosphorus (P), sulphur (S) and nitrogen oxides (NOX) are finally summed to a total score. Requirements regarding the emission of AOX can be found in the Basic Module, generation 3 or later (O14).

The emission value that is reported is primarily based on measured emissions. Instructions for measuring emissions are found in Appendix 5 in the Basic Module. Requirements are also imposed on the laboratory, the method of measurement and frequency of measurement.

O7 Total emissions score

Emissions to air and/or water from the production of pulp and tissue paper must be specified in terms of emissions scores for each of the four parameters (P_{COD} , P_{P} , P_{S} , P_{NOx}). The measured emissions shall be compared to reference values relating to specific production methods.

The individual point score for P_{COD} , P_{P} , P_{S} , and P_{NOx} must not exceed 1.3.

The total emissions score, $P_{\text{emissions total}}$:

$P_{\text{emissions total}} = P_{\text{COD}} + P_{\text{P}} + P_{\text{S}} + P_{\text{NOx}}$ must not exceed 4.0.

The calculation of the product's total emissions for recycled fibre/de-inked pulps and tissue paper production ($P_{\text{emission total}}$) uses the product-specific reference values given in Table 2.

To calculate the individual emission scores for P_{COD} , P_{P} , P_{S} , and P_{NOx} and for reference values for difference pulp types, please refer to the Basic Module, generation 3 or later (Appendix 5, Table 5.1).

Table 2 Reference values for emissions of tissue paper and recycled fibre/de-inked pulp (DIP) manufacturing.

Type of paper/pulp	Reference values for emissions (kg/ADt)			
	COD_{ref}	P_{ref}	S_{ref}	NOX_{ref}
Tissue paper	1.2	0.007	0.15	0.5
Recycled pulp/DIP	2.5	0.007	0.2	0.25
Sum of tissue paper & recycled pulp/DIP	3.7	0.014	0.35	0.75

Emissions from the tissue paper mill shall be reported after the wastewater treatment. Water samples must be taken after treatment of the wastewater in a treatment plant and the water flow at the time of sampling must be stated. If the wastewater is treated together with other wastewater, or if campaigns are run, samples must be taken before the treatment plant and before being mixed with other water. The results of the analysis are then reduced by the efficiency of the treatment plant, which must be documented. See also Appendix 5 in the Basic Module, generation 3.

- ☞ **The tissue paper manufacturer** shall submit calculations in accordance with Appendix 5 of the Basic Module, generation 3 to demonstrate fulfilment of the requirement. Nordic Ecolabelling also provides a spreadsheet that is to be used for these calculations.
- ☞ **The tissue paper manufacturer** shall submit the specific emissions (kg/ADt) of COD, P, S and NO_x during the production of tissue paper. For each emission parameter, test results, method of analysis, test frequency, sampling points for emissions and the compliance of laboratories with laboratory requirements shall be enclosed (see also Section 5.3, Analyses in the Basic Module, generation 3).

2.4 Product safety and quality

2.4.1 Chemicals

All production chemicals involved in the production of tissue paper and tissue products must comply with the requirements set out in the Chemical Module, generation 3 or later, and the requirements specified in the Supplementary Module for Tissue Paper and Tissue Products.

Requirements in respect of production chemicals not presented below, e.g. dyes and adhesives, are set out in the Chemical Module, generation 3. See Table 3 below for an overview of the chemical requirements stipulated in the Chemical Module and the Supplementary Module for Tissue Paper and Tissue Products.

Table 3 Overview of chemical requirements, indicating in which module the requirement is stipulated.

Chemicals	Chemical Module, generation 3	Supplementary Module for Tissue Paper and Tissue products, generation 6
All production chemicals - Classification (O1) - Prohibited substances (O2)	O1, O2	
Cleaning agents and dispersants	O3	
Deinking chemicals	O4	
Biocidal products and slimicides	O5	
Retention agents and flocculants	O6	
Softeners		O8
Wet strength agents ¹	O7	O9
Foam inhibitors and defoamers	O8	
Paper colourants - Metals (O9) - Amines and phthalates (O10)	O9, O10	
Adhesives	O11	
Starch - GMO	O12	
Yankee chemicals ²		O9
Additives (perfumes, lotions, conditioners, cleaning agents)		O10
Paper in contact with food		O11
Content and harmful substances and bleeding		O12

¹ Requirement levels specified in this supplementary module of Tissue Paper and Tissue Products are to be applied.

² Yankee chemicals refers to auxiliary chemicals used to improve manufacturing conditions such as adhesion and release of paper web on the Yankee cylinder.

O8 Softeners

Softeners that contain quaternary Imidazoline (CAS no. 72749-55-4) are exempt from classification as Aquatic acute 1 H400, Aquatic chronic 1 H410, Aquatic chronic 2 H411 and Aquatic Chronic 3 H412 in the requirement O1 in the Chemical Module (generation 3).



The manufacturer/supplier of softeners shall demonstrate compliance with the requirement in the web-based application tool, see also Appendix 1 in this Criteria document.

O9 Chloro-organic substances in wet strength agents and in auxiliary chemicals

Wet strength agents must not contain more than 3500 ppm (0.35%) in total of the low-molecular chloro-organic compounds epichlorohydrin (ECH), dichloroisopropanol (DCP) and monochloropropanediol (MCPD) – calculated on the basis of the dry matter content.

Auxiliary chemicals* used on Yankee cylinders in tissue paper production must not contain more than 300 ppm (0.03%) in total of epichlorohydrin (ECH), dichloroisopropanol (DCP) and monochloropropanediol (MCPD).

Please note, that in accordance with requirement O7 in the Chemical Module, generation 3, alkylphenol ethoxylates and other alkylphenol derivatives must not be added to wet strength agents.

**An example of auxiliary chemicals used on Yankee cylinders are coating agents used to improve manufacturing conditions such as adhesion and release of paper web on the Yankee cylinder.*



The manufacturer/supplier of wet strength agents and auxiliary chemicals shall demonstrate compliance with the requirement in the web-based application tool, see also Appendix 2 in this Criteria document.

O10 Additives in the finished product

The following additives are not permitted in the finished tissue product (including cores):

Perfumes

Perfumes and other fragrances are not permitted in the tissue product. Essential oils or plant extracts where the function is to provide scent are not permitted.

Cosmetic and body care additives (e.g. lotion)

Cosmetic or body care preparations and other scenting substances whose main function is other than to give the tissue product a scent must meet the requirements of the Nordic Ecolabelling for Cosmetic Products, generation 3 or later.

Cleaning agents

Cleaning agents designed for surface cleaning (e.g. floor cleaning) are not permitted in the tissue product.



The tissue product manufacturer shall declare compliance with the requirement in the web-based application tool.



If cosmetic and body care additives are used, **the tissue paper manufacturer** shall supply documentation which shows that the Nordic Ecolabelling Criteria for Cosmetic Products are fulfilled, see also Appendix 3.

O11 Tissue paper and tissue product in contact with food

Tissue paper and tissue product marketed for use in contact with food must comply with EU Regulation no. 1935/2004/EC on materials and articles intended to come into contact with food and be labelled as such according to article 15 of EU regulation no. 1935/2004/EC.

Furthermore, kitchen towels and napkins must also comply with BfR's recommendation XXXVI. Paper and board for food contact, April 2021 or more recent versions.



The tissue paper and tissue product manufacturer shall enclose confirmation from an independent third-party that the regulation and guidelines are followed.



The tissue product manufacturer shall enclose sample of information printed on the product's exterior packaging.

O12 Content of harmful substances and bleeding

This requirement is divided into tissue paper and tissue products manufactured from different fibres:

Table A) only applies to recycled fibre or mixes of recycled and virgin fibre and

Table B) applies to all fibre types, including virgin fibre, recycled fibre or mixes of virgin and recycled fibre.

Table A) Maximum permitted content for tissue paper and tissue products that contain recycled fibres:

Parameter	Limit	Test method
Formaldehyde	1 mg/dm ²	EN 1541 – aqueous extract
Glyoxal	1.5 mg/dm ²	DIN 54603
PCB	0.05 mg/kg	EN ISO 15318
PCP	0.15 mg/kg	EN ISO 15320
Total organic fluorine ^{*,**}	20 mg/kg	EN ISO 10304-1 (D20) or equivalent standard ^{***}
Migration of bisphenol A, F, S [*]	0.05 mg/kg foodstuff ^{****}	EN 645

* Applied to kitchen towels, napkins and all other tissue products marketed for use in contact with food.

** The content of inorganic fluorine compounds is subtracted from the results of the TOF analysis.

*** Equivalent standard must be approved by Nordic Ecolabelling.

**** Limit value for each individual substance

Table B) The following requirements apply to all tissue paper and tissue products covering all fibre types:

Parameter	Test methods and levels
Slimecides and anti-microbials	No growth inhibiting effects arising from micro-organisms according to test method EN 1104.
Optical brighteners	No bleeding according to test method EN 648, latest version, level 4 or 5 [*]
Dyes and printing inks (when relevant)	No bleeding according to test method EN 646, latest version, level 4 or 5 [*]

* Please note that for tissue paper and products that are required to follow BfR XXXVI (O11), the level required in BfR XXXVI must be fulfilled.

The requirement must be documented on application, with subsequent annual checks via self-assessment.

☞ **The tissue paper manufacturer** shall enclose test results and test reports from an independent third party. Testing shall comply with the methods described in the requirement.

☞ **The tissue paper manufacturer** shall enclose a written procedure showing how an annual test is performed in line with the requirement, along with annual in-house checks of compliance with the requirement.

2.4.2 Product function

O13 Absorption properties of kitchen towel and paper towels

Kitchen towel and paper towels (both sheet and rolls) must have an absorption capacity of at least 5g water/g paper, measured over 30 seconds according to test method ENV 12625-8:2010. The test is to be performed on the converted product.

☞ **The tissue product manufacturer** shall enclose test result according to test method ENV 12625-8:2010.

O14 Strength/perforation of kitchen towel

The ratio between the strength of the paper longitudinally and over the perforation must be at least 2 according to EN 12625-4:2016. The test must be conducted on the converted product. The requirement does not apply to kitchen rolls without perforation.

☞ **The tissue product manufacturer** shall enclose test results according to EN 12625-4:2016.

O15 Toilet paper

Toilet paper must not possess wet strength. The toilet paper is considered to be strong when wet if its relative wet tensile strength is greater than 10% in the machine direction. The test must be conducted on the converted product.

Relative wet tensile strength is measured as the quotient between wet and dry tensile strength. If the tensile strength of the wet tissue paper is so low that it cannot be measured the paper is not considered to have wet strength.

☞ **The tissue product manufacturer** shall enclose test results. Measurement of tensile strength is to be carried out according to a standardized and reproducible method.

☞ Description of method and routines for ensuring that the toilet paper does not have wet strength in those cases in which production lines switch between the manufacture of paper with and without wet strength.

2.5 Packaging

O16 Recycled raw material in primary packaging

The requirement covers primary packaging* for the Nordic Swan Ecolabelled tissue product.

**Primary packaging means the packaging that stays with the Nordic Swan Ecolabelled product all the way to the customer, also including smaller resealable handkerchief packs within the packaging. Stretch film for base paper is out of scope of the requirement.*

Plastic packaging

Plastics must contain at least 30% recycled** plastics.

Exemptions apply to:

- Packaging of napkins and handkerchiefs made from polypropylene

Paper packaging

Paper packaging refers to all paper-based packaging (paper, board etc.). On an annual basis,

1. A minimum of 70% of the fibre raw material that is used in the paper packaging shall originate from forestry certified under the FSC or PEFC schemes,
or
2. The paper packaging must consist of a minimum of 70% of recycled fibres** or be labelled as FSC or PEFC recycled,
or
3. A combination of certified and recycled fibres. If the paper packaging contains both recycled and certified fibres, the sum of these fibres shall in total be a minimum of 70%.

The remaining proportion of fibre raw material must be covered by the FSC/PEFC control schemes (FSC controlled wood/PEFC controlled sources).

** *Recycled material defined according to ISO 14021 in the following two categories:*

Pre-consumer material: Material diverted from the waste stream during a manufacturing process. Excluded is reuse of materials such as broke generated in a process and capable of being reused within the same process that generated it.

Post-consumer material: Material generated by households or by commercial, industrial and institutional facilities in their role as end-users of the product, which can no longer be used for its intended purpose. This includes returns of material from the distribution chain.



The tissue product manufacturer shall enclose a description of the material composition of the packaging e.g. in the form of technical data sheets. Appendix 4 Declaration from the manufacturer(s) of the packaging can be used as part of the documentation.

O17 Chlorinated plastic

Chlorinated plastic e.g. polyvinyl chloride (PVC) and polyvinylidene chloride (PVDC) must not be used in the packaging (article, group or transport packaging).



The tissue product manufacturer shall declare that chlorinated plastic is not used in the packaging. Appendix 4 Declaration from the manufacturer(s) of the packaging can be used as part of the documentation.

O18 Recyclable packaging material in the primary packaging

It shall be possible to recycle* the main material** in the primary packaging via the existing recycling systems in the Nordic countries today. Furthermore, primary packaging made of plastic must be made of mono-materials***.

* *Incineration for energy recovery is not classed as material recycling.*

Biodegradable/compostable/oxo-degradable plastics cannot be recycled at today's recycling facilities.

*** The main material is defined as the material that makes up 90 wt% or more of the total packaging.*

**** A mono-material is defined as material components that are not composed of multiple material types, e.g. the same plastic type and cardboard are monomaterials.*



The tissue product manufacturer shall demonstrate compliance with the requirement by enclosing a description of the main material in the packaging and how the material can be recycled in existing waste and resource systems in the Nordic region. Appendix 4 Declaration from the manufacturer(s) of the packaging can be used as part of the documentation.

O19 Information on recycling

The packaging shall carry information on how it can be sorted for recycling. This information shall be stated using text or symbols.



The tissue product manufacturer shall enclose sample of information printed on the product's exterior packaging.

3 Licence maintenance

The purpose of the licence maintenance is to ensure that fundamental quality assurance is dealt with appropriately.

O20 Customer complaints

The licensee must guarantee that the quality of the Nordic Swan Ecolabelled product does not deteriorate during the validity period of the licence. Therefore, the licensee must keep an archive over customer complaints.

Note that the original routine must be in one Nordic language or in English.



Routines for handling and archiving customer complaints.

O21 Traceability

The licensee must be able to trace the Nordic Swan Ecolabelled products in the production. A manufactured / sold product should be able to trace back to the occasion (time and date) and the location (specific factory) and, in relevant cases, also which machine / production line where it was produced. In addition, it should be possible to connect the product with the actual raw material used.



Description of the mill's traceability system/routines for the fulfilment of the requirement.

O22 Annual follow-up

Every year a follow-up of the environmental requirements must be made in line with instructions from Nordic Ecolabelling, see also requirement O16 in the Basic Module, generation 3 or later.

Nordic Ecolabelling may examine a selection, or all, of the requirements.

Regulations for the Nordic Ecolabelling of products

When the Nordic Swan Ecolabel is used on products the licence number shall be included.

More information on graphical guidelines, regulations and fees can be found at www.nordic-ecolabel.org/regulations/

Follow-up inspections

Nordic Ecolabelling may decide to check whether tissue paper fulfils Nordic Ecolabelling requirements during the licence period. This may involve a site visit, random sampling or similar test.

The licence may be revoked if it is evident that tissue paper and tissue products do not meet the requirements.

Criteria version history

Nordic Ecolabelling adopted version 6.0 of the criteria for Tissue paper and tissue products on 21 December 2022. The criteria are valid until 31 December 2027.

New criteria

In the next generation of the criteria, the following requirements shall be revised

- Energy and emissions on greenhouse gases (O4-O6), regarding reference values for energy consumption and limit value for emissions of CO_{2e}.
- Chloro-organic substances in wet strength agents and in auxiliary chemicals (O9), regarding a further tightening of the limit values for both wet strength agents and auxiliary chemicals.
- Packaging (O16) regarding share of recycled material in the primary packaging, both for paper and plastic.

Appendix 1 Softeners

To be used in conjunction with an application for a licence for the Nordic Swan Ecolabel of Tissue Paper and Tissue Products.

Product name:
Function:
Chemical producer/supplier:

O8 Softeners	Yes	No
Does the softener contain quarternary imidazoline (CAS no. 72749-55-4)?	<input type="checkbox"/>	<input type="checkbox"/>
If yes, is the product classified as harmful to the environment with the risk code H400, H410, H411 or H412?	<input type="checkbox"/>	<input type="checkbox"/>

We declare that the requirements have been met and that the information provided is correct. In the event of any change to the composition of the product, that impacts the product's fulfilment of the requirements, a new declaration of fulfilment of the requirements is to be submitted to Nordic Ecolabelling.

Place and date:	Company name/stamp:
Person responsible:	Signature of responsible person:
Phone:	E-mail:

Appendix 2 Chloro-organic compounds in wet strength agents and auxiliary chemicals

To be used in conjunction with an application for a licence for the Nordic Swan Ecolabel of Tissue paper and tissue product.

Product name:
Function:
Chemical producer/supplier:

O9 Chloro-organic compounds in wet strength agents	Yes	No
<p>Wet strength agents must not contain more than 3500 ppm (0.35%) in total of the low-molecular chloro-organic compounds epichlorohydrin (ECH), dichloroisopropanol (DCP) and monochloropropanediol (MCPD) – calculated on the basis of the dry matter content.</p> <p>Does the wet strength agent contain any of the low-molecular organic compounds epichlorohydrin (ECH), dichloroisopropanol (DCP) or chloropropanediol (MCPD)?</p> <p>If yes, please state the unambiguous chemical name, CAS number, relevant risk phrases and concentration (in ppm) for each substance:</p> <p>_____</p> <p>_____</p> <p>_____</p>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Alkylphenol ethoxylates or other alkylphenol derivatives must not be added to wet strength agents.</p> <p>Have alkylphenol ethoxylates or other alkylphenol derivatives been added to the wet strength agent?</p>	<input type="checkbox"/>	<input type="checkbox"/>

O9 Chloro-organic compounds in auxiliary chemicals used on Yankee cylinders	Yes	No
<p>Auxiliary chemicals* used on Yankee cylinders in tissue paper production must not contain more than 300 ppm (0.03%) in total of epichlorohydrin (ECH), dichloroisopropanol (DCP) or monochloropropanediol (MCPD).</p> <p>Does the auxiliary chemical* used on the Yankee cylinder contain any of the low-molecular organic compounds epichlorohydrin (ECH), dichloroisopropanol (DCP) or chloropropanediol (MCDP)?</p> <p>* An example of auxiliary chemicals used on Yankee cylinders are coating agents used to improve manufacturing conditions such as adhesion and release of paper web on the Yankee cylinder.</p> <p>If yes, please state the unambiguous chemical name, CAS number, relevant risk phrases and concentration (in ppm) for each substance:</p> <hr/> <hr/> <hr/>	<input type="checkbox"/>	<input type="checkbox"/>

We declare that the requirements have been met and that the information provided is correct. In the event of any change to the composition of the product, that impacts the product's fulfilment of the requirements, a new declaration of fulfilment of the requirements is to be submitted to Nordic Ecolabelling.

Place and date:	Company name/stamp:
Person responsible:	Signature of responsible person:
Phone:	E-mail:

Appendix 3 Additives in the finished tissue product

To be used in conjunction with an application for a licence for the Nordic Swan Ecolabelling of Tissue paper and tissue product.

O10 Additives in the finished tissue product (including cores)	Yes	No
Does the tissue paper product contain perfume or other fragrant substances (e.g. essential oils and plant extracts)?	<input type="checkbox"/>	<input type="checkbox"/>
Does the tissue paper product contain cosmetics or body care preparations and fragrant or scented products whose main function is other than to give the tissue product a scent?	<input type="checkbox"/>	<input type="checkbox"/>
Does the tissue paper product contain cleaning agents designed for surface cleaning (e.g. floor cleaning agents)?	<input type="checkbox"/>	<input type="checkbox"/>

We declare that the requirements have been met and that the information provided is correct. In the event of any change to the composition of the product, that impacts the product's fulfilment of the requirements, a new declaration of fulfilment of the requirements is to be submitted to Nordic Ecolabelling.

Place and date:	Company name/stamp:
Person responsible:	Signature of responsible person:
Phone:	E-mail:

Appendix 4 Declaration from packaging manufacturer

To be used in conjunction with an application for a licence for the Nordic Ecolabelling of Tissue paper and tissue products. You may also enclose other documentation such as technical data sheets.

This declaration is based on the knowledge we have at the time of the application, based on tests and/or declarations from raw material manufacturers, with reservations for new advances and new knowledge. Should such new knowledge arise, the undersigned is obliged to submit an updated declaration to Nordic Ecolabelling.

Manufacturer/distributor
Packaging material (type of plastic, paper, board etc.) List all materials included in the packaging.

General requirements (O17-O18)

O17 Materials excluded from use	Yes	No
Is chlorinated plastic e.g. polyvinyl chloride (PVC) and polyvinylidene chloride (PVDC) used in the packaging?	<input type="checkbox"/>	<input type="checkbox"/>

O18 Recyclability of packaging	Yes	No
Is the main material* in the packaging recyclable** via the existing recycling systems in the Nordic countries?	<input type="checkbox"/>	<input type="checkbox"/>
<p>* The main material is defined as the material that makes up 90 wt% or more of the total packaging.</p> <p>* Incineration for energy recovery is not classed as material recycling. Biodegradable/compostable/oxo-degradable plastics cannot be recycled at today's recycling facilities.</p> <p>How should the packaging be recycled?</p> <p>_____</p> <p>_____</p>		

Requirements for plastics packaging (O16):

O16: Recycled material in plastic packaging	Yes	No
<p>Does the packaging contain recycled plastics*?</p> <p>** Recycled material defined according to ISO 14021 in the following two categories:</p> <p><i>Pre-consumer material: Material diverted from the waste stream during a manufacturing process. Excluded is reuse of materials such as broke generated in a process and capable of being reused within the same process that generated it.</i></p> <p><i>Post-consumer material: Material generated by households or by commercial, industrial and institutional facilities in their role as end-users of the product, which can no longer be used for its intended purpose. This includes returns of material from the distribution chain.</i></p> <p>If yes, state the percentage of recycled plastics (weight- %): _____</p>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Is the plastic packaging made of monomaterial?</p> <p>*** A mono-material is defined as material components that are not composed of multiple material types, e.g. the same plastic type and cardboard are monomaterials.</p>	<input type="checkbox"/>	<input type="checkbox"/>

Requirements for paper packaging (O16):

Paper packaging refers to all paper-based packaging (paper, board etc.).

O16: Paper packaging	Yes	No
<p>Does the paper packaging contain recycled material*?</p> <p>** Recycled material defined according to ISO 14021 in the following two categories:</p> <p><i>Pre-consumer material: Material diverted from the waste stream during a manufacturing process. Excluded is reuse of materials such as broke generated in a process and capable of being reused within the same process that generated it.</i></p> <p><i>Post-consumer material: Material generated by households or by commercial, industrial and institutional facilities in their role as end-users of the product, which can no longer be used for its intended purpose. This includes returns of material from the distribution chain.</i></p> <p>If yes, state the percentage of recycled material in packaging (weight- %): _____</p>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Does the paper packaging contain certified fibres that originates from forestry certified under the FSC or PEFC schemes?</p> <p>If yes, state the percentage by weight of the pulp/paper that originates from forestry certified under the FSC or PEFC schemes: _____</p>	<input type="checkbox"/>	<input type="checkbox"/>
<p>With reference to the percentage recycled material/certified fibres in the paper: Is the remaining proportion of fibre raw material covered by the FSC/PEFC control schemes (FSC controlled wood/PEFC controlled sources)?</p>	<input type="checkbox"/>	<input type="checkbox"/>

Place and date:	Company name/stamp:
Person responsible:	Signature of responsible person:
Phone:	E-mail: