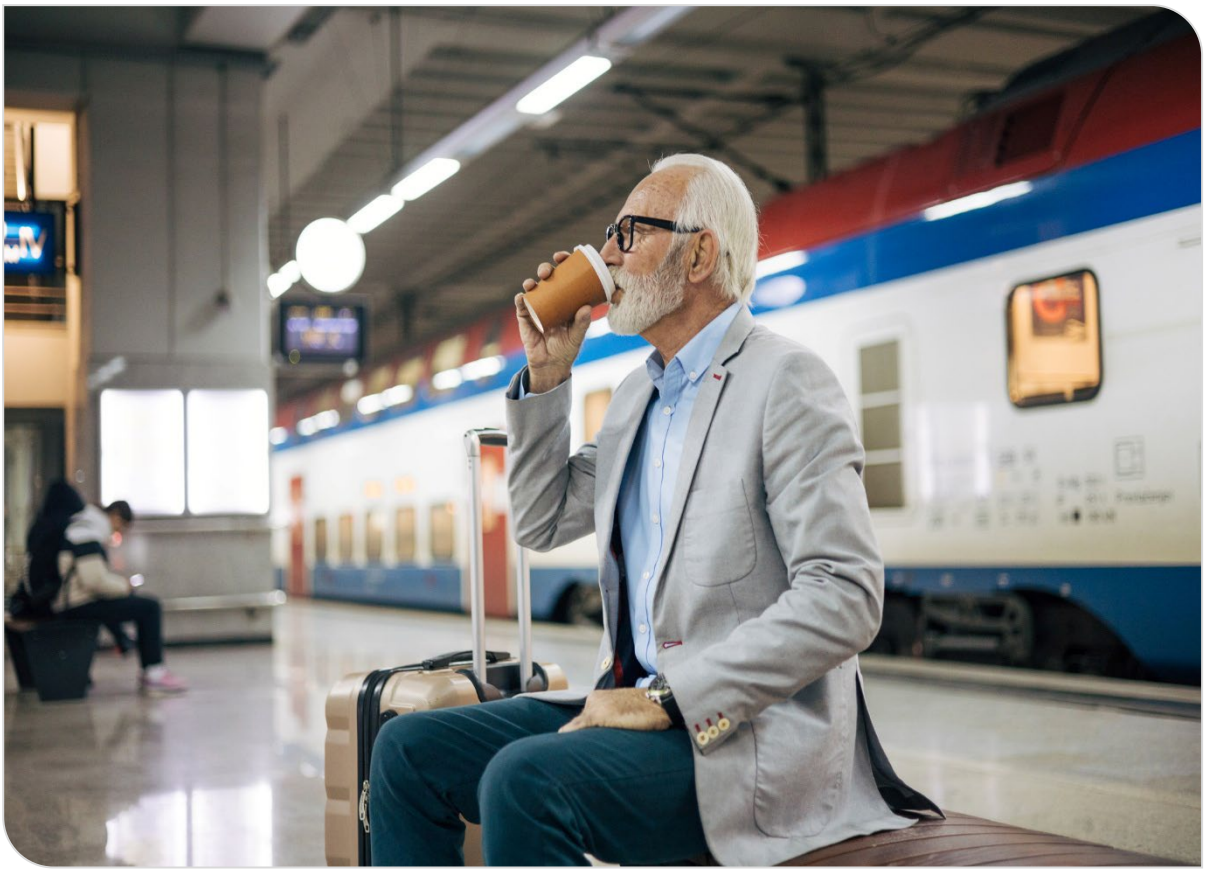
Nordic Ecolabelling for

Disposables for food and beverages



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CONSULTATION

Nordic Ecolabelling

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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:

Denmark

Ecolabelling Denmark

www.svanemaerket.dk

Iceland

Ecolabelling Iceland

www.svanurinn.is

Finland

Ecolabelling Finland

www.joutsenmerkki.fi

Norway

Ecolabelling Norway

www.svanemerket.no

Sweden

Ecolabelling Sweden

www.svanen.se

1 Environmental communication guideline for Nordic Swan Ecolabel Disposables for food and beverages

Nordic Swan Ecolabelled disposables for food and beverages are amongst the least environmentally harmful products in their category and fulfil requirements relating to both health and the environment.

The products consist of a high proportion of bio-based materials or recycled plastic to reduce the product's climate impact and to contribute to a reduction in dependence on fossil carbons. There are strict environmental, - and health related requirements to the chemicals used in the production of the ingoing materials and in the converting process to the finished disposables, like glue, coatings and printing ink. The disposable should also be designed to promote recycling meaning that e.g. the product must consist of materials that can be material recovered and the adhesive shall not cause problems in the recycling processes.

A Nordic Swan Ecolabelled disposable product

- Contains a high percentage of renewable materials or recycled plastic, to replace virgin fossil-based plastic.
- Consists of responsibly sourced renewable raw materials through requirements ensuring traceability and a high percentage of certified raw material. Biobased plastic must not use palm oil, including PFAD or genetically modified (GMO) plants. Minimum 70% of the wood raw material is certified.
- Consists of paper and board that are manufactured in a climate- and energy efficient way, with reduced energy consumption and reduced emissions of greenhouse gases. Fossil oil and coal are not allowed in production.
- SE, NO, FI, IS: Meets strict requirements concerning chemicals that are hazardous to health or to the environment, including a ban on added PFAS, phthalates and bisphenols.
- DK: Meets strict requirements concerning chemicals that are hazardous to health or to the environment, including a ban on added phthalates and bisphenols.
- Promotes recycling, by meeting requirements on adhesive and colourings and information on how to recycle.

2 What can carry the Nordic Swan Ecolabel?

Product group definition

The product group comprises various products that are intended to be in contact with food for a short period and that are intended for single use. The product types covered can be divided into the following categories:

- Take-away packaging such as coffee cups, pizza boxes, containers and paper for the packaging of food
- Disposable tableware such as cups/glasses, plates, cutlery and drinking straws
- Bags and films for packaging food, such as bread bags, freezer bags and bags for fruit and vegetables
- Coffee and tea filters
- Toothpicks/cocktail sticks and stirrers

Products that **cannot** be Nordic Swan Ecolabelled

Below is a specification of the types of products that cannot be ecolabelled according to these criteria. Some of these products may, however, be ecolabelled under other criteria. This applies to:

- Napkins – may be ecolabelled under the criteria for Tissue Paper
- Food paper and baking paper – may be ecolabelled under the criteria for Grease-proof Paper
- The following products made of/containing plastic: Straws, disposable cutlery, plates, toothpicks /cocktail sticks and stirrers – cannot be ecolabelled
- Cups containing more than 5 weight-% plastic – cannot be ecolabelled.
- Waste bags – cannot be ecolabelled
- Carrier bags (for carrying food home from the store) – cannot be ecolabelled
- Packaging that is part of a prepacked* food product, e.g. a milk carton or juice bottle, where the finished product has to be labelled in line with Regulation No (EU) 1169/2011 on the provision of food information to consumers, is not included in this product group.

**In this context, prepacked food refers to the definition used in Regulation No (EU) 1169/2011: any single article for presentation as such to the final consumer and to mass caterers, consisting of a food and the packaging into which it was put before being offered for sale, whether such packaging encloses the food completely or only partially, but in any event in such a way that the contents cannot be altered without opening or changing the packaging; "prepacked food" does not cover foods packed on the sales premises at the consumer's request or prepacked for direct sale. Disposable articles that are used for food intended for immediate sale can thus be Nordic Swan Ecolabelled.*

If there is any doubt about whether a product type falls within the product group definition, Nordic Ecolabelling will decide whether the product can be ecolabelled.

2.1 Justification of the product group definition

For a description of the product group definition, see "What can carry the Nordic Swan Ecolabel".

The product group comprises various products that are intended to be in contact with food for a short period and that are intended for single use. Packaging that is part of a prepacked food product, e.g. a milk carton or juice bottle, where the finished product must be labelled in line with Regulation No (EU) 1169/2011 on the provision of food information to consumers, is not included in this product group.

It is not the intention that Nordic Swan Ecolabel disposables for food will encourage increased use of disposable products. Reusable alternatives, such as reusable to-go cups, are on the market. Nordic Ecolabelling does not yet have criteria for reusable products but welcomes these re-use/refill solutions. They will also be further fostered by the Packaging and Packaging Waste Regulation, PPWR.

However, since disposable products are used in large quantities in our society today Nordic Swan Ecolabel requirements for disposables are still highly relevant. There will continue to be situations where disposable products are difficult to replace with reusable options. Nordic Swan Ecolabel on disposables is raising awareness of the difference in environmental impact on the disposable products on the market today. Nordic Ecolabelling wishes to guide consumers or purchasers of disposable products towards choosing the least environmentally harmful products on the market. In addition, the Nordic Swan Ecolabel requirements are preparing licensees for future legislation.

Disposable products are also an area in which a number of environmental assertions are used in marketing, such as “biodegradable”, “bioplastic” and “recycled material”. Consumers and professional purchasers can find it difficult to identify which of these claims provides a real environmental benefit, the Nordic Swan Ecolabel can therefore make a difference in this area.

Environmental claims describing the Nordic Swan Ecolabel disposables are given in Chapter 1. Here reference to the ban on added PFAS has been removed from the environmental communication guide for Denmark, since there is already a national law prohibiting PFAS in paper and board intended for food contact.

3 How to read this criteria document

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

Requirement checked on site

To be awarded a Nordic Swan Ecolabel licence:

- All obligatory requirements must be fulfilled.

Before a license is issued, the Nordic Ecolabelling organization will normally pay an inspection visit to the applicant and/or the manufacturer. If necessary, multiple inspection visits can be made.

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

4 Summary

Nordic Ecolabelling has conducted a revision of the criteria for Disposables for food and beverages to generation 5.

Production of raw materials is the life cycle phase with the greatest environmental impact in terms of energy and resource consumption and climate impact for disposable products. A switch to renewable and recycled materials will cause less resource consumption and impact on the climate, however, it is important that raw materials are sourced and manufactured in a sustainable way. The aim of the revision has been to tighten the requirements for raw materials and chemicals used and to further reduce the use of fossil-based plastics.

The end-of life is important for this product group, since the products are disposable and will generate a significant amount of waste. Nordic Ecolabelling therefore sets requirements for recycling design to ensure the products can be easily recycled and thus contribute to the circular economy. For example, the colouring of plastic products is minimised.

Chemicals used during conversion and in the production of the constituent materials are important in terms not only of emissions to the environment, but also due to potential health risks associated with use of the products. The chemicals are also a consideration when recycling the products. For this reason, it is important to restrict chemical use in general but also restrict chemicals that are harmful to health and the environment, so that these do not stay in the recycling loops.

The key changes in the revision are:

- The minimum content of renewable or recycled materials in the disposable product has been raised from 90% to 95% by weight. In addition, products made entirely of plastic must also contain at least of 10% recycled plastic by weight of the disposable product. And if the plastic is made from PET (polyethylene terephthalate), the product must contain at least 30% recycled PET.
- The use of individual packaging has been banned.
- Mass balance can be used for bio-based polymers in products consisting entirely of plastic. Threshold value when requirements for certification of bio-based raw materials apply has been removed.
- Energy requirement for polymers now applies to both bio-based and recycled polymers. Energy consumption requirement must be fulfilled.
- For paper and pulp, reference values for energy and emissions to water and air have been tightened. Use of fossil oil and coal is prohibited in the production of paper and board.
- New general and specific chemical requirements have been introduced, such as a ban on a number of problematic substances in the chemicals used.
- Requirements for colourants (pigments/dyes) and printing inks have been tightened. Mineral-oil–based raw materials must not be used. New limit values have been introduced for metals present as impurities in colourants (pigments/dyes). In addition, printing inks must comply with the EuPIA Guideline for Printing Inks Applied to Food Contact Materials (May 2023 or later)
- Products made entirely of plastic may not be coloured, dyed or printed on. Exemptions are allowed for small prints with a functional purpose, such as description field on freezer bags or label for sorting instructions.

Further, the name of the criteria has been changed from "disposables for food" to "disposables for food and beverages" to better reflect that the disposable product is also for liquids.

Please see Table 1 in chapter 4.1 for an overview over changes from generation 4 to generation 5.

4.1 Changes compared to previous generation

Table 1 Overview of changes to criteria for disposables for food and beverages generation 5 compared with previous generation 4.

Proposed requirement generation 5	Gen. 4	Same req.	Change	New req.	Comments
Product group definition			x		Strengthened. Cups containing more than 5 weight-% plastic cannot be ecolabelled. Changed name from "Disposables for food" to "Disposables for food and beverages"
Description of product and material composition					
O1 Description of the product	O1	x			Not changed.
O2 Material composition	O2		x		Strengthened. The minimum amount of renewable materials in the disposable product has been increased from 90% to 95% by weight. And products not entirely made of plastic, must not contain more than 5% plastic by weight. Cups containing more than 5w% plastic are not allowed. Products made entirely of plastic must also contain at least 10% post-consumer recycled plastic by weight of the disposable product. For plastic made from PET (polyethylene terephthalate), the product must contain at least 30% post-consumer recycled. Incorporated previous req. O26 Dyed plastic which has been tightened to that plastic products must not be dyed or printed on. Exemptions are allowed for small prints with a functional purpose, such as description field on freezer bags or label for sorting instructions. Individual packaging banned.
O3 PVC and PVDC	O3		x		Strengthened. Updated to latest NSE framework requirement. Requirement now includes ban on oxo-degradable plastic and biodegradable plastic.
Production of materials					
O4 Pulp	O4		x		Tightened. Refer to Basic and Chemical Module 3. Reference values for NSSC pulp are tightened.
O5 Paper and board	O5		x		Strengthened. Ban on use of fossil oil and coal in the paper/board mill. Refer to Basic Module (BM) and Chemical Module (CM), gen. 3,

					Energy score limit is 2.3 instead of 2.5 in the BM. Reference values for filter paper and board are tightened, see closely Table 2. New limit value for CO_2 emissions comprising fuels used for heat. Emissions to water and air are tightened, see closely Table 3.
O6 Greaseproof paper	O7		x		Strengthened. Refer to gen 5 of the Greaseproof paper Criteria.
O7 Optical brighteners	O8	x			Not changed.
O8 Prohibited and restricted tree species (wood, veneer, pulp, paper and board)	O6 and O9		x		Strengthened. EUDR included in the requirement.
O9 Traceability and certification (wood, veneer, pulp, paper and board)	O6 and O9		x		Strengthened. EUDR included in the requirement.
O10 Raw materials for bio-based polymers	O10		x		Strengthened. Certifications updated, no limit value when applied, previously it was set to 10%. Ban on GMO included.
O11Energy – Synthetic polymers	O12		x		Strengthened. Applied now to both bio-based and recycled polymers, if the polymer makes up more than 5% of the product. Previously limit value was 10% applied only to bio-based polymers. Energy consumption shall not exceed 40 MJ/kg polymer. Alternative for energy savings measures has been removed.
Chemicals					
O12 Classification of chemical products	O13		x		Strengthened. Updated in line with the NSE guidelines for chemicals, it includes new CLP classifications to support the European Green Deal's goal of a toxic-free environment, addressing endocrine disruptors, environmental toxicity, persistency, mobility, and bioaccumulation. Endocrine disruption for human health: EUH380, EUH381 Endocrine disruption for the environment: EUH430, EUH431 Persistent, Bioaccumulative and Toxic properties: EUH440 Very Persistent, Very Bioaccumulative properties: EUH441 Persistent, Mobile, and Toxic properties: EUH450 Very Persistent, Very Mobile properties: EUH451 Furthermore, the following hazards has been excluded: Hazardous to the aquatic environment: H413 Hazardous to the ozone layer: H420 Specific target organ toxicity: H371, H373
O13 Classification of ingoing substances	O14		x		Strengthened. Updated in line with the NSE guidelines for chemicals, it includes new CLP classifications for endocrine disruptors, environmental toxicity, persistency, mobility,

					and bioaccumulation., see O7 classification above. Furthermore, the following hazards has been excluded: Hazardous to the ozone layer: H420 Specific target organ toxicity: H372 Respiratory sensitization: H334
O14 Excluded substances	O15		x		Strengthened. List of excluded substances has been expanded with the following: Quaternary ammonium compounds, which are not readily aerobic biodegradable such as DTDMAC (CAS No. 61789-80-8), DSDMAC (CAS No. 107-64-2), DHTDMAC (CAS No. 61789-72-8) and DADMAC (CAS No. 7398-69-8) Aziridine (CAS No. 151-56-4) and polyaziridines Bisphenols and bisphenol derivatives, defined as 34 bisphenols identified by ECHA for further EU regulatory risk management due to known or potential endocrine disruption or reproductive toxicity Ethylenediamine tetraacetate (EDTA, CAS No. 60-00-4) and its salts and Diethylenetriamine pentaacetate (DTPA, CAS No. 67-43-6) and its salts Per- and polyfluoroalkyl substances (PFAS) Nanomaterials/-particles Organotin compounds Volatile aromatic compounds (VAC)
O15 Aromas, flavourings and fragrances	O16	x			Not changed.
O16 Adhesives	O17		x		Strengthened. General chemical req. O12-O14 have changed.
O17 Coating and impregnations	O18		x		Strengthened. Limit values for each D4, D5 and D6 have been tightened from 800 ppm in the ready to use silicone mixture or the finished cured silicone to 1000 ppm on dry silicone basis on the ingoing silicone chemical products and aligns with the Criteria for Greaseproof paper, generation 5.
O18 Colourants for printing and dyeing	O19		x		Strengthened. Specified that the requirements apply to colourants (pigments/dyes) and inks used for printing, dyeing, and shading in the converting process. Colourants (pigments/dyes) used in the paper and board manufacturing process must comply with the requirements set out in Chemical Module 3 or later. A ban has been introduced in O2 on colourants (pigments/dyes) and inks used for products made solely of plastic. Requirements for colourants (pigments/dyes) and printing inks have been strengthened. Mineral-oil–based raw materials must not be used. New limit values have been introduced for metals present as impurities in colourants (pigments/dyes). In addition, printing inks must comply with the EuPIA Guideline for Printing

					Inks Applied to Food Contact Materials (May 2023 or later).
O19 Chemicals in coffee and tea filters	O20	x			Not changed.
O20 Additives in plastic	O21		x		Strengthened. General chemical req. O12-O14 have changed.
O21 Residual monomers in synthetic polymers	O22		x		Strengthened. Additional excluded classifications: Specific target organ toxicity: H370, H371, H372, H373 Acute toxicity: H330, H310, H300, H331, H301, H311 Endocrine disruption for human health: EUH380, EUH381
O22 Chemicals – recycled plastics	O23		x		Strengthened. Testing procedures for IAS and NIAS in recycled plastics.
O23 Materials in contact with food	O25		x		Strengthened. Updated with reference to the latest standards and requires that both standards are fulfilled.
Recycling design					
O24 Biodegradable/compostable polymers in plastic products	O26	x			Not changed.
O25 Mixing different materials	O27	x			Not changed.
O26 Adhesive for labels	O29	x			Not changed.
O27 Recyclability and labelling	O30		x		Strengthened. Addition on information how to sort the packaging. Cups labelled in accordance with Article 7 of the EU Single-use plastics directive (EU Directive 2019/904) must use the marking requirements set out by SUPD "Plastic in product". Furthermore, the requirement now includes specified pictograms that can be used on how it should be sorted for recycling.
O28 Information about properties	O31	x			Not changed.
O29 Quality requirement for coffee and tea filters	O32	x			Not changed.
Licence maintenance					
O30 Customer complaints		x			Editorial change. Replace the former requirements O33-O39
O31 Traceability		x			Editorial change. Replace the former requirements O33-O39
Removed requirements from generation 5					
Genetically modified plants	O11				Editorial change. Requirement incorporated in O10 Raw materials for bio-based polymers.
Individual packaging and cores	O24				Removed. Individual packaging banned in O2.
Dyed plastic	O26				Moved to O2
	O33				Removed
	O34				Removed

	O35				Removed
	O36				Removed
	O37				Removed
	O38				Removed
	O39				Removed

5 Requirements and justification of these

This section addresses the general requirement areas such as the product descriptions and constituent materials in the products. For definitions, see Definitions and abbreviations.

Below is an overview of the requirements of the criteria document, as well as the forms that can be used to document the requirement.

Definitions

Terms	Definition/Explanation
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%.
Bio-based polymer/plastic	Bio-based polymer can be defined as polymer produced from renewable resources. It is therefore an alternative to conventional plastics based on fossil resources. The biomass currently originates mainly from plants grown specifically to be used as feedstock to substitute fossil resources, such as sugarcane, cereal crops, oil crops or non-food sources like wood. Other sources are organic waste and by-products, such as used cooking oil, bagasse and tall oil. Plastics can be fully or partially made from bio-based feedstock. Bio-based plastics can be both biodegradable and non-biodegradable. Please, notice that Nordic Ecolabelling does not consider biodegradable/compostable fossil-based plastic as bio-based plastic.
Bio-based polymer by mass balance method	With mass balance method means mixing fossil and renewable raw materials in the production process with mathematical allocation of the renewable raw material to the finished polymer. This means that there is not full traceability on the renewable raw material through the production plant and that the amount of renewable raw material in the finished polymer will vary.
Bio-based polymer with full traceability	Full traceability means that there is traceability on the renewable raw material through the whole production chain, for instance by having a separate production line where renewable raw materials are only used, so that the finished polymer will only comprise of renewable raw materials.
Colourant	"Colourant" is a generic term for all colour giving substances e.g. pigment and dyes.
Colouring	General term for colouring process, adding colour to a material e.g. such as dyeing.
Residual products	Residual products as defined by EU Directive 2018/2001/EC. Residues come from agriculture, aquaculture, fisheries, and forestry, or they can be processing residues. A processing residual product is a substance that is not one of the end products that the production process directly strives for. Residues must not be a direct target of the process, and the process must not be changed to intentional production of the residual

	product. Examples of residual products are e.g., straw, husks, pods, the non-edible part of maize, manure, and bagasse. Examples of processing residues are e.g., raw glycerine or brown lye from paper production. Palm Fatty Acid Distillate (PFAD) or Palm Oil Mill Effluent (POME) from palm oil is not considered a residual/waste product.
Individual packaging	Individual packaging applies to the packaging which may cover each individual article, for example, the paper covering chopsticks or the plastic covering cutlery.
Plastics	"Plastic' means polymer to which additives or other substances may have been added, which is capable of functioning as a main structural component of final materials and articles (EU 10/2011).
PPWR	Regulation (EU) 2025/40 on Packaging and Packaging Waste (PPWR)
Printing inks	Printing inks are mixtures of colourants with other substances which are applied on materials to form a graphic or decorative design.
Recycled material	Recycled material is defined in the requirement according to ISO 14021, which applies the following two categories: "Pre-consumer/commercial" is defined as material that is recovered from the waste stream during a manufacturing process. Materials that are reworked or reground, or waste that has been produced in a process, and can be recycled within the same manufacturing process that generated it, are not considered to be pre-consumer recovered material. "Post-consumer/commercial" is defined as material generated by households or commercial, industrial, or institutional facilities in their role as end-users of a product that can no longer be used for its intended purpose. This includes materials from the distribution chain.
Recycled content calculation method	According to ISO 14021.
Recycled plastic	According to the EU 2022/1616, 'recycled plastic' means plastic resulting from the decontamination process of a recycling process and plastic resulting from subsequent post-processing operations and that is not yet transformed into recycled plastic materials and articles.
Renewable raw materials	Renewable raw materials as biological materials that are reproduced in nature within a shorter number of years, like grain or trees.
Sales packaging	In accordance with Regulation (EU) 2025/40 on Packaging and Packaging Waste (PPWR), the term "sales packaging" means packaging conceived so as to constitute a sales unit consisting of products and packaging to the end user at the point of sale.

5.1 Description of the product and material composition

O1 Description of the product

Applicants must provide the following information about the product(s):

1. Brand/trading name
2. Where the products are to be sold (grocery store, online shop, take-away industry or similar)
3. Description of the product(s):
   - the type of product (e.g. coffee filter, cup for hot/cold drinks, salad bowl, bread bag, freezer bag)
   - constituent materials, e.g. paper, board, plastic (including types such as PE, PP etc.), plus a declaration of the constituent quantities of the different material types

(% by weight of the individual material in relation to the total weight of the product). The overview must include the trading name of the material and the supplier.

Product data sheet or equivalent for each material must be submitted. Materials in the cores or other parts* that accompany the disposable product must also be declared.

**core means, e.g. the cardboard tube that plastic film or plastic bags are rolled around. Other parts may include lids for coffee cups.*

4. Description of the production process for the product, including conversion. Suppliers must be specified by business name, production site, contact person and the production processes they perform (e.g. printing).
5. Chemicals used in the conversion, e.g. adhesives, coatings or printing inks. Chemicals used in the cores or other parts must also be included.

If yes, submit a list of the chemicals used in the conversion.

Description in accordance with the requirement. Appendix 2 may be used. A product data sheet must be sent as part of the documentation.

Background to requirement O1 Description of the product

The purpose of setting the requirement is to gain an overview of the product for which a licence is being sought, plus the production processes and suppliers. Constituent materials e.g. filter paper, board, plastic including types such as PE, PP etc. and the quantities of the material types must be declared, as also the chemicals used in conversion of the disposable product. This will make it easier to determine which requirements have to be fulfilled.

O2 Material composition

General requirements (apply to all disposables products)

- At least 95% by weight of the disposable product must consist of bio-based material or recycled* plastic.

  *A maximum of 5% by weight of the disposable product may comprise non-renewable materials. Coatings and adhesives are to be included in the material composition calculation. Other chemicals, such as printing inks and additives, should not be included. Inorganic filler** should not be counted in the proportion of non-renewable materials. Inorganic fillers can be used in plastic, but the plastic can have a density of max 0.995 g/ccm or it must be documented in another way that the addition of inorganic fillers will not affect the possibility for material recovery in floating/sinking processes. The limit does not apply to plastics that are used in the lamination and coating of paper and board-based products.*

- Metal and recycled pulp/paper/board are not permitted.
- Individual packaging is not permitted.

In addition, products not entirely of plastic:

- must not contain more than 5% by weight plastic.

In addition, requirements for products made entirely of plastic:

- a minimum of 10% by weight must be post-consumer recycled** plastic.
- Plastic made from PET (polyethylene terephthalate) must contain at least 30% post-consumer recycled plastic.
- The recycled plastic must fulfil Regulation (EC) No 2022/1616 as amended on recycled plastic materials and articles intended to come into contact with foods. The recycling process must be approved and published on EU's official list over approved recycling processes, see Annex I in the regulation 2022/1616.
- Pure plastic components must not be coloured, dyed or printed on. Exemptions are allowed for small prints with a functional purpose, such as description field on freezer bags or label for sorting instructions.

  ** For recycled plastic the definitions in ISO 14021 as well as in Regulation 2022/1616 apply, see definitions.*

  *** Examples of inorganic fillers are kaolin, calcium carbonate and clay.*

- Calculation showing that share of bio-based or recycled plastic is fulfilled. Appendix 2 can be used.

- Information on the type of inorganic filler and its quantity (% by weight) in the plastic, as well as the density of the plastic, or other documentation that confirms that the plastic will not sink in the material recovery process.

- Declaration from the manufacturer of the disposable product, or the supplier of the material, stating that it does not contain recycled paper, board, metal or individual packaging. And that pure plastic components are not coloured, dyed printed on. Appendix 2 can be used.

- Regarding bio-based plastic, if the mass balance method is used, a declaration/certificate from an independent third party confirming that the renewable raw material is used in the production of products and that there is a system in place for controlling amount of purchased renewable raw material and the amount of bio-based polymer sold, so that no more bio-based polymer is sold than purchased of renewable raw materials.

- Producer of the disposable product/license holder shall document that they buy bio-based/recycled polymer, for instance with a specification on the invoice.

- For recycled plastic documentation must be provided to confirm that the plastic is approved under the stated EU regulation - meaning that the process must be approved in the Community register of authorised recycling processes, as stated in Annex I in the regulation 2022/1616. Specify name of the recycling process and name of company of the approved process.

Background to requirement O2 Material composition

The requirement has been tightened in this generation.

Changes to the requirement

The minimum amount of renewable materials or recycled plastics in the disposable product has been increased from 90% to 95% by weight. The remaining proportion may be other materials such as fossil plastic, adhesives and coatings. The industry has been working to reduce the use of fossil-based materials and plastic in these products, a development that the Nordic Ecolabelling aims to further support.

Disposable for food and beverages are affected by the EU Single-use plastics directive (EU Directive 2019/904). Certain product types made entirely of plastic such as plates and straws are banned, while beverage cups are subject to mandatory marking requirements. The SUP directive applies to any single use product, made wholly or partly of plastic, with no minimum threshold limit. The purpose is to inform consumers about the presence of plastics in the products and the negative environmental impact of littering or improper disposal.

The SUP directive has to some degree moved the industry to increase the use of fibre-based disposables, with paper and board packaging producers seeking alternative barrier coatings to replace conventional PE film. For beverage cups, many paper-based solutions may claim to be plastic free, but this is not entirely correct. New barrier coatings, such as polymers dispersions, can contain significantly less plastic and it is generally stated that using polymer dispersion as barrier coating instead of regular PE film improves the recycling of the fibre-based material[1,2,3]. However, these polymers are still classified as plastic under the SUP Directive and must therefore also carry the required marking "Plastic in product-turtle" symbol.

Sweden has further implemented a ban on cups containing more than 15% plastic, with the aim of reducing littering and promoting circular economy[4]. Nordic Ecolabelling aims to reduce plastic content in cups and to promote reusable alternatives. Therefore, Nordic Ecolabelling has introduced a ban on cups containing more than 5 weight-% plastic.

Inorganic filler

The requirement concerning inorganic filler remains unchanged. Inorganic fillers such as kaolin, calcium carbonate, chalk and silicates are used in both paper and plastic materials to varying degrees. Nordic Ecolabelling does not set limits on the content of such fillers in other paper criteria. In the case of plastics, however, too much inorganic filler makes recycling of plastics difficult, since they are too heavy and sink to the bottom at the plant, and as such end up in the fraction that is sent for incineration. As the criteria wish to promote material recycling, the density of the plastic must not exceed 0.995 g/ccm or that it can be documented in another way that the plastic will not sink in the recovery process. This does

[1] https://dispersions-resins.basf.com/emea/en/newsletter-printing-packaging/2022-02/Rising_to_the_recycling_challenge (accessed 2025-11-30)
[2] https://www.kemira.com/stories/3-reasons-why-dispersion-barrier-coatings-are-the-future-of-recyclable-food-packaging/ (accessed 2025-11-30)
[3] Maria Morits, Anneli Lepo, Muhammad Farooq, and Monika Österberg (2025) Film Formation Mechanism of Aqueous Polymer Particle Dispersions for Barrier Coating Applications. ACS Applied Materials & Interfaces 17 (25), 37068-37080. DOI: 10.1021/acsami.5c05234
[4] Förordning (2021:996) om engångsprodukter. Klimat- och näringslivsdepartmentet.

not apply to plastics that are used as a laminate/coating, on board products for example, since these plastics are sent for incineration. Nordic Ecolabelling does not have knowledge that similar recycling problems exist for paper.

Renewable raw materials

Nordic Ecolabelling generally wishes to promote the use of renewable materials in these criteria. In terms of resources, it is beneficial to use renewable raw materials instead of fossil-based equivalents. It helps to reduce dependence on fossil raw materials and, as the resource is renewable, it can be regenerated. However, materials based on renewable raw materials are not automatically sustainable. It is, important that the renewable raw materials are sourced and produced sustainably (see section and its requirements 5.2.1 Pulp, paper and board, 5.2.2 Wood raw materials and 5.2.3 Agricultural raw materials).

Nordic Ecolabelling has evaluated whether bio-based polymers by the mass balance method can be used to fulfil the requirement of minimum 95% by weight of bio-based materials in the product. Mass balance method means mixing of fossil and renewable raw material in the beginning of the production process with mathematical allocation of the renewable raw material to the finished polymer. Nordic Ecolabelling acknowledges that the phasing out of fossil raw materials in complex production processes will take time, and then the use of mass balance is a step in the right direction. To be able to use the mass balance system it must be controlled by an independent third party. As a minimum it must be controlled that the amount of renewable raw material purchased corresponds with the amount of polymer sold as bio-based.

Ban on metal

The ban on metal remains unchanged. There are several environmental problems associated with the production of metals, including extraction of raw materials, emissions and high energy consumption. Metals combined with other materials, particularly plastic, can also make the recycling of the product more difficult[5]. Residual metals can lead the plastic to be discarded and cause problems later in the plastic production process.

Individual packaging

The previous requirement concerning individual packaging has been removed and replaced with a complete ban on such packaging. The requirement is also incorporated in O2 previously it was a separate requirement. Individual packaging refers to packaging around a single item, such as paper around chopsticks or wrappers for cutlery. To reduce the use of additional packaging materials, Nordic Ecolabelling has decided to introduce this ban.

Recycled materials

Products made entirely of plastic will also need to contain a minimum amount of post-consumer recycled plastic. Plastic packaging made from PET (polyethylene terephthalate) must contain at least 30% by weight, while all other plastic must contain at least 10%. This aligns with the new EU Regulation (EU) 2025/40 on Packaging and Packaging Waste (PPWR) which requires by January 1, 2030 that contact sensitive packaging made from PET contains at least 30% post-consumer recycled plastic and all other contact-sensitive

[5] "Bättre förutsättningar för återvinning av plastförpackningar", FTI och "Plastkretsen"

packaging contain at least 10% post-consumer recycled plastic. The PPWR entered into force on February 11 2025. The regulation aims to reduce the quantities of packaging and waste by promoting recyclability and increasing the use of recycled plastic.

The requirement has been further updated by referring to the new EU regulation (EU) 2022/1616 on recycled plastic materials and articles intended to come into contact with foods replacing the previous regulation 282/2008. Recycled plastic follows the definitions in Regulation 2022/1616 and ISO 14021 which concerns both pre-and post-consumed plastic.

Nordic Ecolabelling is generally positive about using recycled materials, to stimulate better use of resources and contribute to the circular economy. However, the ban on recycled paper/board remains in place. Recycled fibres may contain unknown substances and be polluted with substances that should not be present in products used in contact with food. Therefore, Nordic Ecolabelling wishes that only virgin fibre will be used in papers in contact with food.

Recycled plastics

Recycled plastics used in disposable products must comply with Regulation (EU) No 10/2011 on plastic materials and articles intended to come into contact with food. The Regulation contains restrictions on which monomers and other inputs may be used. Only substances listed in Annex 1 of the Regulation shall be used. This list covers monomers and other inputs, additives (excluding colourants) and aids to polymerisation. There are also requirements concerning migration limits.

In addition, the plastic must fulfil the specific Regulation (EC) No 2022/1616 on recycled plastic materials and articles intended to come into contact with foods. In accordance to the regulation there shall be established a list over approved recycling processes. Nordic Ecolabelling has chosen to have a strict policy and only wants to approve products that are produced using one of the recycling processes on the official list that shall be established. This to make sure that the regulations are followed and that the plastic is safe in use. Nordic Ecolabelling is aware of the consequences of this, and that recycled plastic is very limited today.

As well as the plastic having to be approved under Regulation (EC) No 2022/1616, testing procedures for intentionally (NIAS) and non-intentionally added substances (IAS) must be shown, see closely requirement O22 for chemicals in recycled plastic.

Coloured, dyed or printed plastic

The requirement has been tightened in this generation of the criteria and incorporated into requirement O2, previously it was a separate requirement. The pure plastic product must not be dyed or printed on, previously the requirement only restricted plastic from being dyed black. Nordic Ecolabelling wishes to encourage a situation which the products that enter the recycling systems are of as high a quality and purity as possible. Current guidelines[6,7] on how to improve products recyclability is to reduce chemicals such as colourants. For plastic materials an uncoloured plastic packaging has a higher value in the recycling process. Printing on plastic material should also be restricted since the print media is difficult to

[6] Näringslivets producentansvar - Plastic packaging "Design guidelines for recycling and circularity- A manual from Näringslivets Producentansvar v1.0
[7] https://recyclass.eu/recyclability/design-for-recycling-guidelines/ (accessed 2025-11-20)

separate and becomes incorporated into the recycled plastic material. Nordic Ecolabelling therefore sets a requirement that pure plastic products must not be dyed or printed on. To improve product functionality, exemptions are allowed for small prints with a functional purpose, such as description fields on freezer bags or labels for sorting instructions.

O3 PVC and PVDC

Halogenated plastics (e.g. polyvinyl chloride (PVC) and polyvinylidene chloride (PVDC)), oxo-degradable plastic and biodegradable plastic must not be used in the product including cores, other parts and packaging.

- Declaration from the manufacturer of the disposable product, or from the supplier of the plastic material, that requirement is fulfilled. Appendix 2 may be used.

Background to requirement O3 PVC and PVDC

Halogenated plastics, such as polyvinyl chloride (PVC) and polyvinylidene chloride (PVDC) must not be used because of emissions of harmful organic chemicals from the entire production chain and challenges with waste management during production and end of life. Read more about Nordic Ecolabelling's position on PVC here: PVC

Oxo-degradable and biodegradable plastics must not be used since they “contaminate” the other recycled plastics streams in the Nordic region. Read more about Nordic Ecolabelling's position on biodegradable plastics here: Biodegradable plastics. Bio-based plastic in PET, PE and PP can be recycled in the same way as fossil-based plastic in PET, PE, and PP.

5.2 Production of materials

The requirements in this chapter 5.2 concern ingoing materials in the disposable product and not the converting process or the finished disposable product. The requirements concerning renewable raw materials comprise requirements for pulp, paper and board, solid wood, veneers and bamboo, plus other agricultural raw materials, including palm oil, soy and sugar cane.

5.2.1 Pulp, paper and board

The requirements concerning pulp, paper, and board are stated below. Nordic Ecolabelling has requirements for paper products in other sets of criteria, to which the requirements below refer. Reference is made to the following modules and criteria:

- Nordic Swan Ecolabelling of Paper Products – Basic Module, generation 3 or later
- Nordic Swan Ecolabelling of Paper Products – Chemical Module, generation 3 or later
- Criteria for the Nordic Swan Ecolabelling of Greaseproof Paper, generation 5 or later

In addition to the existing criteria for paper products mentioned above, other types of pulp, paper and board may be present in disposables products for food that are not covered by the above-mentioned criteria. These are subject to their own requirements concerning

energy and CO_2 emissions and emissions to air and water. Reference values and requirement limits for these are stated in requirement O4 and O5 below.

Please note that O17 under the chapter 5.3 Chemicals (in the criteria document) also applies to the production of pulp, paper and board.

The pulp and paper manufacturer must document the requirements in the web-based application tool My Swan Account. My Swan Account can be found on https://www.nordic-swan-ecolabel.org/pulp-paper-declaration-portal/the-msa-portal/.

O4 Pulp

All pulps used in the manufacture of Nordic Swan Ecolabel product must meet the relevant requirements stipulated in the Basic Module and the Chemical Module, generation 3 or later, with the exception of O7 Fiber raw materials. This criteria document includes specific requirements for fibre raw material, see requirement O8 and O9. These requirements also apply to on-site manufactured pulp.

If the pulp has already been inspected by Nordic Ecolabelling, provide information on the trade name, production site and the manufacturer of the inspected pulp.

** For dried unbleached chemical pulp used in manufacturing of disposables, the reference value of phosphorus is 0.03 kg/ADt. For electricity, the reference value is 700 kWh/ADt and for fuel 4600 kWh/ADt.*

The reference values for undried NSSC pulp are for electricity: $El_{reference}$ = 650kWh/ADt and for fuel: $Fuel_{reference}$ = 3000 kWh/ADt. For dried pulp, the $fuel_{reference}$ is 3900 kWh/ADt.*

** NSSC stands for Neutral Sulfite Semi Chemical*

Reference values for emission from NSSC pulp:

	Reference values emission (kg/ADt)			
	COD	**P**	**S**	**NOx**
NSSC	4	0.01	0.3	1.2

- Pulp inspected by Nordic Ecolabelling: enclose information on the trade name, production site and the manufacturer of the pulp.
- Pulp not inspected by Nordic Ecolabelling: the pulp manufacturer shall submit documentation required from the pulp mill with the aid of the web-based application tool.

O5 Paper and board

Manufacturing of paper and board must meet all the relevant requirements in the Basic Module and the Chemical Module, generation 3 or later, unless otherwise stated in these criteria. For fibre raw material, see closely O8 and O9.

For energy and CO_{2e}, and emissions to air and water, the following reference values and requirement limits for the paper and board manufacturing apply. Otherwise, the calculation methods used in the Basic Module, generation 3, are to be applied.

As an alternative for requirement on low molecular organochloride compounds in wet strength agents (O7) in the Chemical Module, gen 3 or later, the paper/board shall fulfill

requirements for the dichloroisopropanol (DCP) and chloropropanediol (CPD) in BfR's recommendation XXXVI. Paper and board for food contact, from April 2021 or more recent versions.

Energy and emissions of greenhouse gases

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

Energy from fossil oil may only be used 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 total electricity and fuel scores for paper and board must be less than 2.3.

$P_{electricity\_total} < 2.3$

$P_{fuel\_total} < 2.3$

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

Table 2 Reference values for energy and limit value for emission of greenhouse gases

	Energy – reference values (kWh/ADt)		**CO_2 – limit value (kg CO_2/ADt)**
	Fuel	**Electricity**	
Filter paper for coffee/tea	1600	550	350
Board for disposables	1500	500	200
Kraft liner	1500	600	200
Fluting	1500	600	200

Emissions to air and water

Table 3 Reference values for COD, P, S and NOx

	Reference values (kg/ADt)			
	COD	**P**	**S**	**NOx**
Filter paper for coffee/tea	1.0	0.005	0.05	0.5
Board for disposables	1.0	0.005	0.05	0.5
Kraft liner	1.0	0.005	0.05	0.5
Fluting	1.0	0.005	0.05	0.5

- The paper and board manufacturer shall submit documentation demonstrating compliance with relevant requirements in the Basic and Chemical Modules, gen 3 with the aid of the web-based application tool. Calculations shall be made in accordance with Appendices 4 and 5 of the Basic Module, generation 3 or later showing compliance with

the limit values. Nordic Ecolabelling also provides a spreadsheet that is to be used for these calculations.

Background to O4-O5 Pulp and paper and board

The requirements for manufacturing of pulp and paper and board have been updated and follow the requirements in the Basic Module and the Chemical Module for Paper Products, generation 3, unless otherwise stated in these criteria for Disposable products. Requirements for restricted tree species, traceability and certification of wood raw material (O8-O9) in these criteria for Disposables products must also be met. In addition to wood raw material and bamboo, other relevant cellulosic fibres may be included in the pulp upon request. In that case, contact Nordic Ecolabelling for the approval process.

The environmental impact of disposables is highly related to raw materials used. Cellulose pulp is used in manufacturing paper and board for disposables products. During the recent years, the focus in updating Nordic Swan Ecolabel requirements for cellulose pulp-based products has mainly been on reduced energy and greenhouse gas emissions and these requirements for pulp, paper and board are also made more stringent than in the previous version of the Criteria.

Compared with generation 4, the following key changes have been introduced for energy and emissions of greenhouse gases:

- There is a new requirement for ban on fossil oil and coal used for production of process heat in the paper/board mill. Use of natural gas and liquefied petroleum gas (LPG) is still allowed.
- Reference value for board in Table 2 shall be applied for manufacturing of board for disposable products. Previously, reference values given in the Basic Module could be applied. For the sake of clarity, these values have now been combined under these Criteria for Disposables for food and beverages. The energy score value that needs to be fulfilled is 2.3 that is also applied to other Nordic Swan Ecolabelled paper-based products such as greaseproof paper.
- Reference values for energy in manufacturing of filter paper and board have been tightened.
  For board: regarding fuel, from 1700 kWh/ADt to 1500 kWh/ADt and for electricity from 800 kWh/ADt to 500 kWh/ADt.
  For filter paper: the reference values are reduced from 1700 to 1600 and 700 to 550 kWh/ADt, respectively.
  The new reference values are mainly based on the licence data.
- For kraft liner and fluting, the reference values have been reduced from 1700 to 1500 kWh/ADt for fuel and 700 to 600 kWh/ADt for electricity.
- For NSSC pulp used in manufacturing, the tightened reference values are 3000 kWh/ADt for fuel and 650 kWh/ADt for electricity. Previously, the reference values were 3200 kWh/ADt and 700 kWh/ADt.
- Reference values for the pulps in the Basic Module, generation 3 have been tightened. However, for unbleached pulp, reference values for energy and phosphorous (P) given in this criteria document can be used.
- The requirement for emissions of greenhouse gases has been changed. Greenhouse gas requirement only encompasses fuels used for production of

process heat and not electricity as in the previous generation. The new limit value is now set to 200 kg CO_2/ADt for board, kraft liner and fluting and, 350 kg CO_2/ADt for filter paper. Emissions from both the pulp and paper/board manufacturing are included in the requirement.

The background document to the Basic Module, generation 3, provides comprehensive information on the energy requirement and Appendix 4 in the Basic Module describes the calculations in detail. Nordic Ecolabelling also provides a spreadsheet that is to be used for these calculations.

Requirements for emissions to air and water are also tightened:

- The limit value for individual point score has been tightened from 1.5 to 1.3.
- Regarding pulps, the reference values for all emission parameters, namely COD, P, S and NOx have been updated in the Basic Module, generation 3. The weighted average value of AOX released from the mixed pulps must not exceed 0.14 kg/ADt pulp. AOX emissions from each individual pulp must not exceed 0.16 kg/ADt.
- Regarding filter paper and board, the reference values for all emission parameters, namely COD, P, S and NOx have been tightened, see closely Table 3.

Major changes in the Chemical Module, generation 3 also affect the manufacturing of pulp:

- The requirement for classification of chemical products (O1) has been expanded with hazard class and hazard statement Aquatic Chronic 3 H412.
- There is a new requirement for prohibited substances (O2), such as substances on the Candidate list shall not be ingoing substances in chemical products used in the production of pulp. Subsequently, some former requirements are removed, such as the requirement concerning residual monomers, as these are now covered by the new requirement.
- The definition of ingoing substances and impurities in chemical products has been updated, the limit for impurities in the chemical product is 1000 ppm.

O6 Greaseproof paper

Greaseproof paper must meet the requirements set out in “Nordic Ecolabelling for Greaseproof Paper – Supplementary Module”, version 5 or later.

If the greaseproof paper is already Nordic Swan Ecolabelled in line with the criteria for Greaseproof Paper, version 5 or later, the requirement is fulfilled and may be documented with a licence certificate.

- ☐ Greaseproof paper licensed by Nordic Ecolabelling: enclose licence certificate.
- ☐ Greaseproof paper not assessed by Nordic Ecolabelling. The paper manufacturer shall submit documentation demonstrating compliance with the aid of the web-based application tool.

Background to O6 Greaseproof paper

Nordic Ecolabelling has its own criteria for Greaseproof Paper, version 5 and reference is therefore made to these criteria, if grease-proof paper is present in the disposable product. See the background document for Greaseproof Paper for more information on the requirements[8].

O7 Optical brighteners

Optical brighteners must not be used in the production of pulp, paper and board.

- Declaration from the producer of the pulp, paper and board confirming that optical brighteners are not used.

Background to O7 Optical brigteners

The requirement for optical brighteners remains unchanged. The ban on optical brighteners has been included to limit the use of chemicals that can have a harmful effect on human health and the environment either at the point of use or production.

Optical brighteners are used to make paper whiter, in other words to “trick” the eye into believing that the paper is whiter than it actually is. Optical brighteners include derivatives of 4,4-diaminostilbene-2,2-disulphonic acid. The compounds have a low retention on the paper, resulting that they also enter the wastewater stream. These compounds are not biodegradable. The use of optical brighteners is described in more detail in the background to Greaseproof Paper[9].

5.2.2 Wood raw materials

The requirement for wood raw material in this chapter applies to components made from solid wood, such as the stick but also wood raw material used in cellulose-based pulp and paper/board.

O8 Prohibited and restricted tree species (wood, veneer, pulp, paper and board)

Nordic Ecolabelling's list of restricted tree species* consists of tree species listed on:

a) CITES (Appendices I, II and III)

a) IUCN red list, categorized as CR, EN and VU

b) Rainforest Foundation Norway’s tree list

c) Siberian larch from forests outside the EU

Use of tree species listed on a) CITES (Appendices I, II and III) is not permitted.

Tree species listed on either b), c) or d) may be used if they meet all of the following requirements:

- the tree species originates from legally managed forest in accordance with EU Deforestation Regulation** (EUDR)[10]

[8] Grease-proof Paper 049
[9] Grease-proof Paper 049
[10] https://environment.ec.europa.eu/topics/forests/deforestation/regulation-deforestation-free-products_en

- the tree species does not originate from an area/region where it is IUCN red listed, categorized as CR, EN or VU.
- the tree species does not originate from Intact Forest Landscape (IFL), as defined in 2002 http://www.intactforests.org/world.map.html.
- the tree species shall originate from FSC or PEFC certified forest/plantation and shall be covered by a valid FSC/PEFC chain of custody (CoC) certificate documented/controlled as FSC or PEFC 100% through the FSC transfer method or PEFC physical separation method.
- Tree species grown in plantation shall in addition not originate from plantations established on areas converted from forest after 1994.

Exemptions

Eucalyptus and Acacia used for pulp and paper production are exempted from the list***.

** The list of restricted tree species is located on the website: Forestry requirements 2020 (nordic-swan-ecolabel.org).*

*** The requirement applies when EUDR comes into force.*

**** Regarding pulp, fibre raw material from eucalyptus/acacia must be a minimum of 70% certified (see also O9).*

- Enter the names of the tree species included in the product.
- The applicant/manufacturer/supplier must declare that the wood is legality sourced in accordance with the EUDR. Appendix 3 may be used.
- Declaration from the applicant/manufacturer/supplier that tree species listed on a)–d) are not used in the product. Appendix 3 may be used.

  If species from the lists b), c) or d) are used:

  Valid FSC/PEFC Chain of Custody certificate from supplier/applicant/manufacturer covering the specific tree species and documenting that the wood is controlled as FSC or PEFC 100% through the FSC transfer method or PEFC physical separation method.
- The applicant/manufacturer/supplier shall document full traceability back to the certified forest unit and document the following:

  - the wood does not originate from an area/region where it is on the IUCN Red List, categorised as CR, EN or VU.

  - the tree species do not originate from an Intact Forest Landscape (IFL), as defined in 2002: http://www.intactforests.org/world.map.html

  - for plantations, the applicant/manufacturer/supplier must document that the tree species do not originate from plantations established on areas converted from forest after 1994.

Background to O8 Prohibited and restricted tree species

Several tree species are restricted or not permitted for use in Nordic Swan Ecolabel products. Many of the restricted tree species are grown in countries which still have large areas of Intact Forest Landscape (IFLs). These are important to protect due to biodiversity and climate. A lot of these countries also have a high risk of corruption, and the national legislation related to environment, human rights and ownership to land are weak and/or not controlled by the authorities. Applying a precautionary approach, the use of listed restricted tree species must comply with strict requirements on origin, traceability and certification.

The list of prohibited species contains species on the CITES list while the list of restricted species contains species on the IUCN red list (categorized as critically endangered (CR), endangered (EM) and vulnerable (VU)), Rainforest Foundation Norway list and Siberian Larch (originated outside the EU). Restricted species can be used in Nordic Swan Ecolabelled products if certain strict conditions on proof of the legality of the wood sources in accordance with the EUDR, origin, certification and traceability are met. Eucalyptus and Acacia used for pulp and paper production are exempted from the list. Fibre raw material from eucalyptus/acacia must, however, be a minimum of 70% certified, see also O9. For more information about Nordic Swan Ecolabelling's approach on forest, click here.

O9 Traceability and certification (wood, veneer, pulp, paper and board)

The requirement applies to wood raw material and bamboo used in the product/pulp/paper/board.

Wood origin

It must be ensured that all wood raw material, cork and bamboo originate from legally managed forest (in accordance with EUDR*).

**The requirement applies when EUDR comes into force.*

Species name

State the name (species name) on the wood raw material used in the product/pulp/paper/board.

Chain of Custody certification

All wood raw material and bamboo used in Nordic Swan Ecolabelled products must be covered by a valid Chain of Custody certificate in accordance with FSC/PEFC schemes.

The pulp and paper manufacturers and supplier(s) of the wood raw material must be Chain of Custody certified by the FSC/PEFC schemes.

Certified wood raw material and bamboo

Solid wood:

- A minimum of 70% by weight of all wood raw material and bamboo used in the Nordic Swan Ecolabelled product must origin from forest managed according to sustainable forestry management principles that meet the requirements set out by FSC or PEFC schemes.
- The remaining proportion of wood raw material must be covered by the FSC/PEFC's control schemes (FSC controlled wood/PEFC controlled sources).

Fiber raw materials used in pulp/paper/board:

- A minimum of 70% by weight of the fibre raw material allocated to the Nordic Swan Ecolabelled product/paper/board must origin from forest managed according to

sustainable forestry management principles that meet the requirements set out by FSC or PEFC schemes.

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

  Certified wood raw material must be accounted/recorded to the pulp/paper/ production line. If several pulps are mixed, the certification percentage** must be fulfilled for the finished pulp mixture in the product.

  ** Regarding individual pulp, fibre raw material from eucalyptus/acacia must be a minimum of 70% certified (see also O8).The requirement must be documented as purchased amount of wood annually.

For product labelled with FSC / PEFC, no documentation is required, the requirement is met.

- The applicant/manufacturer/supplier must declare that the wood is legality sourced in accordance with the EUDR[11]. Appendix 3 may be used.
- Name (species name) of the wood raw material used. Appendix 3 may be used.
- Valid FSC/PEFC Chain of Custody certificate from all suppliers/link to certificate in FSC/PEFC certificate database covering all wood raw material used in the product/pulp/paper.
- Regarding acacia/eucalyptus, documentation from the pulp manufacturer showing that the quantity of certified fibre in pulp is met. Appendix 3 shall be used.
- Documentation showing that the quantity of certified wood raw material is met and the remaining proportion is covered by FSC/PEFC's control schemes (FSC controlled wood/PEFC controlled sources). This shall be specified in e.g. invoices or delivery notes from suppliers.

Background to O9 Traceability and certification

Nordic Ecolabelling's requirements for raw materials based on wood, bamboo or cork focus on legal (in accordance with EUDR), sustainable forestry and traceability of raw materials. Legality sourced in accordance with the European Union Deforestation Regulation (EUDR) will be applied when EUDR comes into force. NSE is aware that the EUDR legislation has been delayed as well as the agreement to simplification of due diligence requirements. The regulation was due to come into effect on 30 December 2025 but was postponed a year (apply from December 2026). NSE will continue to monitor the development in EUDR.

The many benefits that sustainably managed forests deliver to society include wood for materials and energy, protection against global warming, homes and livelihoods for local communities and indigenous peoples, support of biodiversity and protection of water and soil from pollution and erosion. By setting a requirement that wood raw material must originate

[11] https://environment.ec.europa.eu/topics/forests/deforestation/regulation-

from certified, sustainable managed forests, Nordic Ecolabelling is supporting the move towards more sustainable forestry practices.

The amount of certified wood/fibres used in products, paper and board are 70%. The remaining proportion of wood raw material must meet the requirements of FSC controlled wood or PEFC controlled sources. To be noted the requirement limit, a minimum of 70% of all wood raw material, correspond to the FSC and PEFCs requirement limits for use of the respective labels on products, such as "FSC Mix" and "PEFC certified" when using the percentage system. However, if the product is under the "credit system" there is no minimum limit.

The pulp and paper manufacturers and suppliers of the wood raw material must be Chain of Custody certified by the FSC/PEFC's schemes. The requirement for Chain of Custody certification contributes to traceability in the supply chain within the FSC and PEFC's guidance and control systems for traceability.

There is a requirement that certified raw material must be assigned/allocated to the raw material used in Nordic Swan Ecolabelled product in the accounts for certified/non-certified material. This ensures that FSC/PEFC credits are used for the Nordic Swan Ecolabelled production and that the credits are "used up" and not sold twice. This will stimulate increased demand for certified wood raw material because more certified wood raw material must be purchased if the manufacturer wants to label other products, and not just those used in the Nordic Swan Ecolabelled products, with the FSC/PEFC logo. It should be noted that Nordic Ecolabelling approves both the percentage system and the credit system for accounting and sale of certified material.

Eucalyptus and Acacia used for pulp and paper production are exempted from the list of restricted tree species. However, fibre raw material originating from Acacia and Eucalyptus plantations must be a minimum of 70% certified. This also applies if several pulps are mixed in the finished pulp. It is the user of the eucalyptus/acacia pulp who shall document, for instance based on invoice or delivery note, that the requirement of minimum 70% certified pulp are purchased on a yearly basis.

5.2.3 Agricultural raw materials

O10 Raw materials for bio-based polymers

Raw materials used in the production of bio-based polymer (granules) must meet the following requirements:

Palm oil and soy

Palm oil, soybean oil and soy flour must not be used for bio-based polymer.

Other raw materials

The origin of the raw materials shall be verified as either a) or b):

a) Waste* or residual products defined in accordance with (EU) Renewable Energy Directive 2018/2001. There must be traceability back to the production/process where the residual production occurred.

b) Certified by one of the following certification schemes:

- Bonsucro EU

- ISCC EU or ISCC Plus
- A standard/certification scheme that meets the requirements in Appendix 2.

Primary feedstock must in addition not be genetically modified**

The supplier of the bio-based polymer must have a valid chain of custody (CoC) certificate according to the standard by which the raw material is certified. Traceability must at least be ensured by mass balance. Book and claim systems are not accepted.

** Waste as defined by EU Directive 2018/2001/EC. For residual products, see Definitions.*

*** Genetically modified organisms are defined in EU directive 2001/18/EC.*

- Declaration by the producer of the polymer, that palm oil (incl. PFAD (Palm Fatty Acid Distillate)) soybean oil and soy flour are not used as raw materials for the bio-based polymer. Appendix 10 may be used.
- For waste and residual products: Documentation from the polymer producer which shows that the requirement's definition of waste or residual products is met, as well as traceability which shows where the waste or residual product comes from.
- For certified raw materials (supplier): Indicate which certification system the raw materials are certified by. A copy of a valid CoC certificate/certificate number from the supplier.
- For certified raw materials: Documentation in form of invoices or delivery notes documenting the purchase of certified bio-based polymer for use in Nordic Swan Ecolabelled products.
- For certified raw materials: Declaration stating that the primary feedstock has not been genetically modified (this also applies to mass balance approach). Appendix 10 may be used.

Background to requirement O10 Raw materials for bio-based polymers

Renewable raw materials can have a potential to give better environmental impact than fossil alternatives, but it depends on many parameters such as type of crop, where it is cultivated, cultivation conditions, land use change, further processing of the renewables and waste. Converting forest to cropland can have a huge impact on climate change and biodiversity. So, the possible benefits of replacing fossil-based raw materials with renewable raw materials will vary much and depend on responsible farming/forestry practices.

The establishment of palm oil and soybean plantations has led to vast areas of deforestation and destruction of natural habitats, thereby driving the loss of biodiversity in some of the world's most precious places like the Amazon and Cerrado in Brazil and Borneo in Indonesia[12]. Voluntary certification schemes for palm and soy are not yet considered good enough (by Nordic Ecolabelling) to protect against deforestation, and palm oil, soybean oil and soy flour are therefore banned as raw materials for bio-based polymers. This also

[12] https://www.worldwildlife.org/stories/deforestation-fronts (May 2024)

applies to waste or residual product from the palm oil production such as palm Fatty Acid Distillate (PFAD) or Palm Oil Mill Effluent (POME).

Other renewable raw materials must be a) waste or residual products from i.e., agriculture, fishing, forestry or processing residual product defined in accordance with (EU) Renewable Energy Directive 2018/2001 or b) certified according to approved certifications schemes. Certified virgin raw materials must also not be genetically modified.

Nordic Ecolabelling has so far recognised Bonsucro EU and ISCC EU/Plus as valid certification schemes. The supplier of the bio-based polymer must have a valid chain of custody (CoC) certificate according to the standard by which the raw material is certified. Traceability must at least be ensured by mass balance. Book and claim systems are not accepted.

Nordic Ecolabelling emphasizes the precautionary principle and discourages the use of GMOs that are commercially available today. Nordic Ecolabelling is concerned about the consequences when genetically modified plants, animals and microorganisms are propagated in nature. The ban on GMO also applies when mass balance is used i.e. that GMOs may not be included in the specific mass balance system. However, Nordic Ecolabelling is not against genetic engineering or GMOs as such, and we believe that GMOs should be assessed on a case-by-case basis. For more information on Nordic Swan Ecolabelling's approach on GMO: https://www.nordic-swan-ecolabel.org/nordic-ecolabelling/environmental-aspects/

O11 Energy – synthetic polymers

The requirement applies to synthetic polymers that make up more than 5% of the disposable product by weight.

The energy consumed in the production of the synthetic polymers must not exceed 40 MJ/kg polymer.

Recycled polymers originating from mechanical recycling are exempted from the requirement.

The calculation of energy consumption must include energy from raw material supply, transport and manufacturing of polymer. The analysis must be performed by a competent and independent third party or by the applicant. If the applicant performs the analysis, the analysis must be verified by a competent and independent third party.

- Polymer manufacturer shall submit a calculation of total energy consumption in MJ/kg polymer verified by a third party. A description must be provided of how the energy consumption from the different stages is included in the calculation.

Background to requirement O11 Energy – synthetic polymers

The requirement for energy of bio-based polymers has been changed. The requirement is now applied to both bio-based and recycled polymers that make up more than 5% of the disposable product by weight. In the previous generation, there were two options for fulfilling the requirement, either energy saving actions or limit value for energy use must be fulfilled. The energy saving options have now been removed.

Energy consumption in production of the synthetic polymers must not exceed 40 MJ/kg polymer. The limit value has been tightened from 50 to 40 MJ/kg polymer and covers now product stages from raw material supply, transportation to manufacturer and manufacturing of polymer, often called A1-A3 stages in environmental product declarations. Recycled polymers originating from mechanical recycling are exempted from the requirement as energy consumption in this process is relatively low. The requirement for energy consumption is based on limited information from the literature and promote use of polymers with low environmental impact. Nordic Ecolabelling judges the potential of an energy requirement to be low, but since the relevance is high, it is considered important to retain an energy requirement.

5.3 Chemicals

This section deals with chemical products and ingoing substances in chemical products. The requirements apply to chemical products that:

- are used in the production/composition (conversion) of the disposable product, such as adhesives, printing inks and coatings
- are added to the disposable product, such as aroma and fragrance
- additives in plastic (both fossil and bio-based plastics included, irrespective of quantity)
- residual monomers in plastic (both fossil and bio-based plastics included, irrespective of quantity)

The requirements do **not** apply to:

- auxiliary chemicals used during manufacture, such as lubricants, cleaning chemicals and so on.
- chemicals used in the production and printing of sales packaging.
- chemicals in the production process for pulp/paper/board, including greaseproof paper, since these must meet the requirements in “Nordic Ecolabelling of Paper Products – Chemical Module”, generation 3 or later. However, chemicals that may be used in the production process for pulp/paper/board must also meet:
    - O17 in this criteria document which includes chemical additives for pulp.

The chemical requirements address the chemical product (e.g. a classification requirement for adhesives), but they may also address ingoing substances in the individual chemical product, i.e. ingoing substances in the adhesive. The requirements in the criteria document and accompanying appendices apply to all ingoing substances in the chemical product. Impurities are not regarded as ingoing substances and are exempt from the requirements. Ingoing substances and impurities are defined below, unless stated otherwise in the requirements. Read more in the definition:

- **Ingoing substances**: all substances* in the chemical product, regardless of amount, including additives (e.g. preservatives and stabilisers) from the raw materials of the chemical product. Substances released from ingoing substances (e.g. biocidal active substances generated by preservatives, such as formaldehyde) are also regarded as ingoing substances.

**N.B. the difference from the definition of substances in the REACH Regulation (EC) No 1907/2006. Whereas a REACH substance encompasses a chemical element or compound as well as its stabilising additives and process impurities, a substance here refers to each of the constituents separately. The constituents of a UVCB substance (Unknown or Variable composition, Complex reaction products or of Biological materials) are also regarded separately, and all known constituents must be regarded.*

- **Impurities**: Trace levels of pollutants, contaminants and residues from production, incl. production of raw materials that remain in the in the chemical product in concentrations less than 100 ppm (0,0100 w-%, 100 mg/kg). For formaldehyde other than as a biocidal active substance and for arylamine, the corresponding concentration is ≤ 10 ppm (≤ 0.001 w%).

  Examples of impurities: Background environmental pollutants from feedstock, as well as contaminants and residues from production such as reactants (incl. monomers), reagents, catalysts, by-products, scavengers, detergents for production equipment, carry-over from other or previous production lines.

- **Impurities in the raw materials** in concentrations ≥ 1 000 ppm (≥ 0.1 w%) are always regarded as ingoing substances, regardless of the concentration in the chemical product.

Additional information concerning definitions of ingoing substances and impurities

Limit values: The limit for excluded ingoing substances is 0 ppm (unless otherwise stated), while there's a specific defined limit for impurities. The impurity limit applies separately to each individual excluded substance, from each individual raw material. Concentrations of different impurities with the same excluded classification or substance group characteristics shall not be summed up to meet the impurity limit in the labelled product. Also, concentrations of an individual impurity, originating from different raw materials, shall not be summed.

UVCB substances: UVCB substances (Unknown or Variable composition, Complex reaction products or of Biological materials) have a composition of constituents that is not completely known or is variable from time to time. For UVCBs substances, all constituents that are known must be considered individually and are subject to the chemical requirements, including for instance those on excluded substances and excluded classifications.

O12 Classification of chemical products

Chemical products used in the production/composition (conversion) of the disposable product (e.g. adhesive or printing ink must not be classified with any of the hazards from CLP (EC) No 1272/2008 specified in Table 4.

The requirement also applies to additives to plastics, where it later in the criteria document is referred to this requirement, see O20.

Table 4 Excluded hazards

Classification under CLP Regulation (EC) No 1272/2008		
Hazard class	**Category**	**Hazard code**
Hazardous to the aquatic environment	Aquatic Acute 1 Aquatic Chronic 1-4	H400 H410, H411, H412, H413
Hazardous to the ozone layer	Ozone	H420
Acute toxicity	Acute Tox. 1, 2 Acute Tox. 3	H330, H310, H300 H331, H301, H311
Specific target organ toxicity	STOT SE 1 STOT SE 2 STOT RE 1 STOT RE 2	H370 H371 H372 H373
Allergenic	Resp. Sens. 1 or Skin Sens 1	H334 H317
Carcinogenic*	Carc. 1A/1B Carc. 2	H350 H351
Germ cell mutagenicity*	Muta. 1A/B Muta. 2	H340 H341
Reproductive toxicity*	Repr. 1A/1B Repr. 2	H360, H361 H362
Endocrine disruption for human health**	ED HH 1 ED HH 2	EUH380 EUH381
Endocrine disruption for environment**	ED ENV1 ED ENV2	EUH430 EUH431
Persistent, bioaccumulative and toxic properties** Very persistent, very bioaccumulative properties**	PBT vPvB	EUH440 EUH441
Persistent, Mobile and Toxic properties Very Persistent, Very Mobile properties	PMT vPvM	EUH450 EUH451

**Includes all classification variants (e.g. H350 also covers H350i).*

*** See also requirement O14 Excluded substances for additional requirements for potential or identified endocrine disruptors and PBT/vPvB substances.*

The producers of the chemical products are responsible for the classification.

- Overview of chemicals used see O1.
- Safety data sheet (SDS), prepared in accordance with Annex II of REACH Regulation (EC) No 1907/2006 for each chemical product in the application.

- Duly completed and signed Appendix:
  - Appendix 4 - Other chemical products, or
  - Appendix 5 - Adhesive, or
  - Appendix 6 - Colourants/printing inks, or
  - Appendix 7 - Silicone coating, or
  - Appendix 8 - Coating/impregnation chemicals

The Appendix must be filled in by the manufacturer/supplier of the chemical product.

Background to requirement O12 Chemical products, classification

The changed requirement now contains a ban on the use of products classified as hazardous to the ozone layer, H420 and expanded classifications of specific target organ toxicity, H371 and H373. This is a general chemical requirement that Nordic Ecolabelling aims to minimize the health and environmental impact of chemical products. Therefore, chemical products with the following classifications cannot be used in the Nordic Swan ecolabelled disposable product: Hazardous to the aquatic environment, hazardous to the ozone layer, very toxic, toxic, causes damage to organs, sensitising, carcinogenic, mutagenic, toxic for reproduction, endocrine disruptive, and persistent, bioaccumulative/mobile and toxic.

The updated CLP classifications now also include endocrine disruptors, PBT/vPvB and PMT/vPvM substances, covering environmental toxicity, persistence, mobility and bioaccumulation. Including PMT and vPvM substances is essential due to their persistence, mobility and potential impact on water quality. The new rules entered into force 20 April 2023. From this date, the Member States may propose harmonized classification and labelling (CLH) with the new hazard classes and manufacturers, importers, downstream users and distributors may also self-classify their substances and mixtures accordingly.

There are transitional periods from the entry into force of the Delegated Regulation, during which manufacturers, importers, downstream users and distributors are not yet required to classify their substances or mixtures according to the new hazard classes. During these periods, the new hazard classes can be applied on a voluntary basis. If applied to an ingoing substance it is excluded in these criteria. However, any products classified according to these new hazard classes and used in a chemical product will be excluded under these criteria.

This is a standard requirement, based on the precautionary principle and is only partially tailored to the specific product group. The requirement is intended to exclude problematic substances that are not necessarily found in products on the market today.

The requirement relates to chemicals used in the production and composition/conversion of the disposable product, such as coatings, adhesives and printing inks. The requirement does not apply to printing inks on the disposable product’s packaging. It has been pointed out that the requirement addresses the chemical product and not the individual substances that make up the product. The requirement must be documented with an overview of the chemicals used, safety data sheets for the various chemicals used, plus a declaration from the manufacturer/supplier of the chemical product.

O13 Classification of ingoing substances

Ingoing substances in chemical products used in the production/composition (conversion) of the disposable product (e.g. adhesive or printing ink must not be classified with any of the hazards from CLP Regulation (EC) No 1272/2008 listed in Table 5.

An exemption is made for:

- formaldehyde in newly produced polymer, see O16

The requirement also applies to additives to plastics, where it later in the criteria document is referred to this requirement, see O20.

Table 5 Excluded Hazards

Classification under CLP Regulation (EC) No 1272/2008		
Hazard class	**Category**	**Hazard code**
Hazardous to the ozone layer	Ozone	H420
Specific target organ toxicity: Repeated exposure	STOT RE 1	H372
Respiratory sensitisation	Resp. Sens. 1, 1A or 1B	H334
Carcinogenic*	Carc. 1A/1B Carc. 2	H350 H351
Germ cell mutagenicity*	Muta. 1A/B Muta. 2	H340 H341
Reproductive toxicity*	Repr. 1A/1B Repr. 2	H360, H361 H362
Endocrine disruption for human health**	ED HH 1 ED HH 2	EUH380 EUH381
Endocrine disruption for the environment**	ED ENV 1 ED ENV 2	EUH430 EUH431
Persistent, Bioaccumulative and Toxic properties** Very Persistent, Very Bioaccumulative properties**	PBT vPvB	EUH440 EUH441
Persistent, Mobile and Toxic properties Very Persistent, Very Mobile properties	PMT vPvM	EUH450 EUH451

** Includes all classification variants (e.g. H350 also covers H350i).*

*** See also requirement O14 Excluded substances for additional requirements for potential or identified endocrine disruptors and PBT/vPvB substances.*

- Duly completed and signed Appendix:

  Appendix 4 - Other chemical products, or

  Appendix 5 - Adhesive, or

  Appendix 6 - Colourants/printing inks, or

  Appendix 7 - Silicone coating, or

  Appendix 8 - Coating/impregnation chemicals

The Appendix must be filled in by the manufacturer/supplier of the chemical product.

Background to requirement O13 Classification of ingoing substances

Nordic Ecolabelling strives to ensure that the health and environmental impact of the products are as low as possible. The requirements therefore make it clear that ingoing substances with the following classifications cannot be used in the chemical product: Hazardous to the ozone layer, causes damage to organs, sensitising, carcinogenic, mutagenic, toxic for reproduction, endocrine disruptors, and persistent, bioaccumulative/mobile and toxic.

The new CLP classifications for endocrine disruptors, PBT/vPvB and PMT/vPvM (environmental toxicity, persistency, mobility and bioaccumulation) are included, se background for O12.

This is a standard requirement, that is set by the precautionary principle and is only partially adapted to the product group. The requirement is intended to exclude problematic substances that are not necessarily found in products on the market today.

O14 Excluded substances

The following substances or substance groups must not be present as ingoing substances in the chemical product used in the production/composition (conversion) of the disposable product (e.g. adhesive or printing ink:

- Substances on the REACH Candidate list of SVHC substances https://www.echa.europa.eu/candidate-list-table

Siloxanes in silicone polymer in coatings and impregnations have an own requirement, see O17. This does not remove the exclusion of SVHC under O14 for siloxanes in other chemical products.

- PBT and vPvB as defined in REACH Annex XIII, including those under ECHA PBT assessment https://echa.europa.eu/da/pbt
- Potential or identified endocrine disruptors, listed in any of the following "Endocrine Disruptor Lists" List I; II and III.

Note: Substances moved to “Substances no longer on list” and not present on Lists I-III, are no longer excluded, except for those on sublist II where concern remains. Nordic Ecolabelling will assess these on a case-by-case basis.

- Quaternary ammonium compounds, which are not readily aerobic biodegradable* such as DTDMAC (CAS No. 61789-80-8), DSDMAC (CAS No. 107-64-2), DHTDMAC (CAS No. 61789-72-8) and DADMAC (CAS No. 7398-69-8)
- Alkylphenols (AP) (e.g. butylated hydroxy anisole (BHA, CAS No. 25013-16-5), butylated hydroxytoluene (BHT, CAS No. 128-37-0), alkylphenol ethoxylates (APEOs) and other alkylphenol derivates (APD)
- Aziridine (CAS No. 151-56-4) and polyaziridines
- Bisphenols and bisphenol derivatives, defined as 34 bisphenols identified by ECHA for further EU regulatory risk management due to known or potential endocrine disruption or reproductive toxicity
- Ethylenediamine tetraacetate (EDTA, CAS No. 60-00-4) and its salts and Diethylenetriamine pentaacetate (DTPA, CAS No. 67-43-6) and its salts
- Per- and polyfluoroalkyl substances (PFAS)**
- Halogenated organic compounds. An exemption is made for:

  - halogenated organic pigments that meet the European Council's "Resolution AP (89) 1 on the use of colourants in plastic materials coming into contact with food", point 2.5. (Perflourinated and polyflourinated alkyl substances are covered by their own bulletin and are not included in this exemption.)

- Antimicrobial or disinfecting substances added for other purposes than preservation of the product***
- Nanomaterials/-particles****

The following substances are exempted from the requirement:

  - Pigments used only to impart colour and not for other purposes
  - Polymer dispersions

- Phthalates (Esters of 1,2-benzenedicarboxylic acid (orthophthalic acid, CAS No. 88-99-3))
- Organotin compounds
- Volatile aromatic compounds (VAC)*****

The requirement also applies to additives to plastics, where it later in the criteria document is referred to this requirement, see O21.

**According to OECD test method 301 (A-F) or 310 or equivalent methods evaluated by an independent body and controlled by Nordic Ecolabelling.*

***PFAS: as any substance that contains at least one fully fluorinated methyl (CF3-) or methylene (-CF2-) carbon atom (without any H/Cl/Br/I attached to it).*

**** An antimicrobial or disinfecting substance is a chemical/product that inhibits or stops growth of microorganisms such as bacteria, fungi or protozoa (single-celled organisms). The requirement does not apply to preservatives used to preserve the chemical product, so-called in-can preservatives.*

***** Nanomaterials/-particles are defined according to the EU Commission Recommendation on the Definition of Nanomaterial (2022/C 229/01):*

'Nanomaterial' means a natural, incidental or manufactured material consisting of solid particles that are present, either on their own or as identifiable constituent particles in aggregates or agglomerates, and where 50 % or more of these particles in the number-based size distribution fulfil at least one of the following conditions:

(a) one or more external dimensions of the particle are in the size range 1 nm to 100 nm;

(b) the particle has an elongated shape, such as a rod, fibre or tube, where two external dimensions are smaller than 1 nm and the other dimension is larger than 100 nm;

(c) the particle has a plate-like shape, where one external dimension is smaller than 1 nm and the other dimensions are larger than 100 nm.

******VAC: Volatile organic compounds containing one or more benzene rings.*

- Duly completed and signed Appendix:

  Appendix 4 - Other chemical products, or

  Appendix 5 - Adhesive, or

  Appendix 6 - Colourants/printing inks, or

Appendix 7 - Silicone coating, or

Appendix 8 - Coating/impregnation chemicals

The Appendix must be filled in by the manufacturer/supplier of the chemical product.

Background to requirement O14 Excluded substances

Certain problematic substances and substance groups are difficult to exclude through general chemical requirements. To address this, Nordic Ecolabelling has compiled a list of substances that must not be present as ingoing substances in the chemical product.

The purpose of this list is to prohibit substances that are not excluded by other requirements but are associated with environmental and health hazards. Some substances are included for clarity, even if they are already prohibited under other requirements.

This is a standard requirement, based on the precautionary principle and is only partially tailored to the specific product group. The requirement is intended to exclude problematic substances that are not necessarily found in products on the market today.

The list of excluded substances has been expanded with the following: Quaternary ammonium compounds, which are not readily aerobic biodegradable such as DTDMAC (CAS No. 61789-80-8), DSDMAC (CAS No. 107-64-2), DHTDMAC (CAS No. 61789-72-8) and DADMAC (CAS No. 7398-69-8), Aziridine (CAS No. 151-56-4) and polyaziridines, Bisphenols and bisphenol derivatives, defined as 34 bisphenols identified by ECHA for further EU regulatory risk management due to known or potential endocrine disruption or reproductive toxicity, Ethylenediamine tetraacetate (EDTA, CAS No. 60-00-4) and its salts and Diethylenetriamine pentaacetate (DTPA, CAS No. 67-43-6) and its salts, Per- and polyfluoroalkyl substances (PFAS), Organotin compounds and Volatile aromatic compounds (VAC).

Substances on the REACH Candidate list of SVHC substances

The Candidate List identifies substances of very high concern which fulfil the criteria in article 57 of the REACH Regulation (EC 1907/2006). The list includes carcinogenic; mutagenic; and reprotoxic substances (CMR, categories 1A and 1B in accordance with the CLP Regulation); and PBT (persistent, bioaccumulative and toxic) and vPvB (very persistent and very bioaccumulative) substances (as defined in REACH Annex XIII). In addition, two more substance groups are included if they are of equivalent level of concern (ELoC) as the ones previously mentioned. These are endocrine disruptors and substances which are environmentally hazardous without fulfilling the requirements for PBT or vPvB. Based on these adverse characteristics, Nordic Ecolabelling prohibits substances on the Candidate List. This means that we act ahead of the legislation and ban the substances before they are subject to authorisation and restriction in accordance with REACH.

PBT and vPvB as defined in REACH Annex XIII, including those under ECHA PBT

PBT and vPvB are abbreviations for substances that are persistent, bioaccumulative and toxic, and very persistent and very bioaccumulative, respectively, in accordance with REACH Annex XIII. This means that they are not biodegradable and that they accumulate in

living organisms. Based on these adverse characteristics they pose a threat to the environment and human health.

Potential or identified endocrine disruptors, listed in any of the following "Endocrine Disruptor Lists" List I; II and III.

Endocrine disruptors (EDs) are chemicals that alter the functioning of the endocrine (hormone) system and consequently cause adverse health effects. The term potential EDs is used for chemicals with properties that make them suspected to be EDs. The hormone system regulates many vital processes in living organisms and when normal signalling is disturbed, adverse effects may result. EDs raise high concern for their risk of causing serious negative impact on the environment as well as on human health specifically. Special concern is raised for effects on reproduction and development and about possible links to increases in public health diseases. While effects in wildlife populations have been confirmed, evidence is pointing to effects also in humans.

Quaternary ammonium compounds, which are not readily aerobic biodegradable such as DTDMAC (CAS No. 61789-80-8), DSDMAC (CAS No. 107-64-2), DHTDMAC (CAS No. 61789-72-8) and DADMAC (CAS No. 7398-69-8)

Quaternary ammonium compounds (QACs) are usually surface-active agents where some of them precipitate or denature proteins and destroy micro-organisms. QACs are toxic to a lot of aquatic organisms including fish, daphnids, algae, rotifer and microorganisms employed in wastewater treatment systems.

Alkylphenols (AP) (e.g. butylated hydroxy anisole (BHA, CAS No. 25013-16-5), butylated hydroxytoluene (BHT, CAS No. 128-37-0), alkylphenol ethoxylates (APEOs) and other alkylphenol derivates (APD)

The non-ionic APEO group of surfactants are produced in large volumes and their uses lead to widespread release to the aquatic environment. APEOs are highly toxic to aquatic organisms and degrade to more environmentally persistent compounds (APDs). Ethoxylated nonylphenol and several other alkylphenols are included in the Candidate List due to endocrine disrupting properties.

The previous exemption for BHT in 2 ppm in water-repelling coatings used on products made from board is removed in this criteria generation 5.

Aziridine (CAS No. 151-56-4) and polyaziridines

Aziridine and polyaziridines have a broad range of applications, included in textile chemicals, adhesives, binders, lubricants, cosmetics and more. Furthermore, they are alkylating agents and is of specific concern due to their potential to link to DNA, therefore both toxic and carcinogenic.

Bisphenols and bisphenol derivatives, defined as 34 bisphenols identified by ECHA for further EU regulatory risk management due to known or potential endocrine disruption or reproductive toxicity

Several bisphenols with the general bisphenol structure and 'bisphenol derivatives' which have constituents with structural properties common to bisphenols are now prohibited. Based on the potential for widespread use and available information on potential endocrine disruptors, reproductive toxicity and PBT/vPvB properties, 34 substances were identified in need for further regulatory risk management in EU[13].

Ethylenediamine tetraacetate (EDTA, CAS No. 60-00-4) and its salts and Diethylenetriamine pentaacetate (DTPA, CAS No. 67-43-6) and its salts

Ethylenediaminetetraacetic acid (EDTA), diethylenetriamine pentaacetate (DTPA) and their salts are not readily degradable. Furthermore, DTPA is classified toxic for reproduction and may potentially pose a risk to consumers. For EDTA, the EU's risk assessment states that under the conditions at municipal water treatment plants EDTA is either not broken down or only breaks down to a slight degree. To-date in Europe, EDTA has been replaced in virtually all consumer products by readily biodegradable alternatives such as MGDA (methylglycine diacetic acid) and GLDA (glutamic acid diacetic acid).

Per- and polyfluoroalkyl substances (PFAS)

Per- and polyfluoroalkyl substances (PFAS) are used in many types of products due to their water and dirt repellent properties. These compounds constitute a group of substances that have highly problematic intrinsic hazardous properties. They are extremely persistent and accumulate in the body. They are spread all over the globe, from the large oceans to the Arctic, and are found in e.g. wild birds and fish and their eggs. Also, shorter chain compounds (2–6 carbon atoms) have been discovered in nature. The substances in this group are suspected to be endocrine disruptors, carcinogenic and to have a negative impact on the human immune system.

Halogenated organic compounds

Halogenated organic compounds, including short-chain chlorinated paraffins (C10-C13), medium-chain chlorinated paraffins (C14-C17), chlorophenols and dimethyl fumarate derivates, is a large group of substances that are harmful to both the environment and human health. They are often carcinogenic, highly toxic to aquatic organisms and very persistent to degradation.

The current exemption for halogenated organic pigments that meet the European Council's "Resolution AP (89) 1 on the use of colourants in plastic materials coming into contact with food", point 2.5 is kept but with the addition that Per- and polyfluoroalkyl substances (PFAS) are not included in the exemption.

[13] Assessment of regulatory needs: Bisphenols. ECHA – 16 December 2021: Section 2.1: Bisphenols for which further EU RRM is proposed https://echa.europa.eu/documents/10162/5e60f2fe-12d0-7f6b-5868-f199cfd7f984

Antimicrobial or disinfecting substances added for other purposes than preservation of the product

An antibacterial agent is a chemical/product that inhibits or stops growth of microorganisms such as bacteria, fungi, or protozoa (single-celled organisms) and can be applied on a treated article or constituent in a chemical product.

There is particular concern that extensive and unnecessary use of antibacterial agents may eliminate desirable bacteria and cause resistance in bacteria, so that in the context where they are needed such agents will no longer have the desired effect. It is suspected that some antibacterial agents are contributing to the increasing resistance to antibiotics in society. Consequently, the bacteria are developing new methods of resisting the effects of the antibiotic. This, in turn, can lead to certain diseases becoming more difficult to treat. Antibacterial agents such as triclosan, triclocarban and silver are examples. Furthermore, they can harm bacteria that are necessary for the treatment of water at water treatment plants. Therefore, antibacterial-treated articles or products containing antibacterial agents should be avoided.

Nanomaterials/-particles

Nanomaterials[14] are a diverse group of materials under the size of 100 nm. Due to their small size and large surface area nanoparticles are often more reactive and may have other properties compared to larger particles of the same material. Further, different sizes, shapes, surface modifications and coatings can also change their physical and chemical properties. Nanoparticles can cross biological membranes and thus be taken up by cells and organs. One of the main concerns are linked to free nanoparticles, as some of these – when inhaled – can reach deep into the lungs, where the uptake into the blood is more likely.

There is concern among public authorities, scientists, environmental organisations, and others about the insufficient knowledge regarding the potential detrimental effects on health and the environment[15,16,17]. Nordic Ecolabelling takes these concerns seriously and applies the precautionary principle to exclude potentially hazardous nanomaterials from products.

Exemptions - Pigments

Pigments are finely ground, insoluble particles that are used to give products a specific colour. There are no substitutes that can fulfil pigments' function as colourants in ink/masterbatch, and many pigments consist partly or entirely of nanoparticles. Thus, nano-sized pigments are exempted. Clear evidence-based conclusions of the safety of nano-pigments cannot be drawn, but "exposures to nano-sized pigments that are integrated into polymer, paint or coating matrices are not thought to be significant, and the risks to

[14] https://www.nordic-swan-ecolabel.org/nordic-ecolabelling/environmental-aspects/chemicals-nano-and-microplastics/nanomaterials/
[15] UNEP (2017) Frontiers 2017 Emerging Issues of Environmental Concern. United Nations Environment Programme, Nairobi. https://wedocs.unep.org/bitstream/handle/20.500.11822/22255/Frontiers_2017_EN.pdf
[16] Parliamentary Assembly of the Council of Europe (2013) Nanotechnology: balancing benefits and risks to public health and the environment.
http://assembly.coe.int/CommitteeDocs/2013/Asocdocinf03_2013.pdf
[17] SCCS (Scientific Committee on Consumer Safety) (2019) Guidance on the Safety Assessment of Nanomaterials in Cosmetics. SCCS/1611/19.
https://ec.europa.eu/health/sites/health/files/scientific_committees/consumer_safety/docs/sccs_o_233.pdf

consumers from such uses are low", according to a literature study commissioned by ECHA[18].

Nordic Ecolabelling does not consider titanium dioxide nanoparticles as pigments, and nano-TiO_2 is therefore not exempted.

Exemptions - Polymer dispersion

Polymer dispersions can technically fulfil the nanomaterial definition. The EU Commission has recommended that solid nanomaterials dispersed in a liquid phase (colloidal) should be considered as nanomaterials[19,20,21]. Non-solid (i.e. liquid and gaseous) particles are excluded from the definition.

Nano emulsions are not covered by the definition because they consist of liquid nano-objects suspended in a liquid phase and the term "particle" is intended to cover only solid nano-objects[22]. Polymers exist in different phases and distinguishing between liquid, semi-solid and solid polymers can be very difficult. To treat all dispersed and suspended polymers alike and avoid confusion, we explicitly state that polymer dispersions are exempted from the requirement. However, some polymer dispersions will still be excluded from Nordic Swan Ecolabel products because they are covered by a restriction on microplastics or by other chemical requirements.

Specific polymeric nanoparticles, such as nanotubes, nanofibres, nanofilms and other nanostructures, are not exempted. Their safety will be considered should it become relevant to use them in Nordic Swan Ecolabel products.

Phthalates (Esters of 1,2-benzenedicarboxylic acid (orthophthalic acid, CAS No. 88-99-3))

A number of phthalates are identified as endocrine disruptors and some of them are classified as reprotoxic. For these reasons several phthalates are included in the Candidate list.

Based on their hazardous properties, phthalates pose a threat to the environment and human health and there is a ban on this group of substances.

Phthalates are used primarily as plasticisers in plastics and since they are not chemically bonded into the plastic, they can leach out into their surroundings. For some phthalates, food is considered the main exposure route, with materials in contact with food being a relevant source[23].

[18] European Chemicals Agency, Nič, M., Kocurkova, L., Přichystalová, R. et al. (2018) Literature study on the uses and risks of nanomaterials as pigments in the European Union. European Chemicals Agency. https://data.europa.eu/doi/10.2823/260688
[19] European commission, COMMISSION STAFF WORKING PAPER, Types and uses of nanomaterials, including safety aspects, SWD(2012) 288 final.
[20] Communication from the commission to the European parliament, the council and the European economic and social committee, Second Regulatory Review on Nanomaterials, COM(2012) 572 final. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52012DC0572
[21] EU Commission recommendation on the definition of nanomaterial (2022/C 229/01) https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32022H0614(01)&from=EN
[22] https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02006R1907-20150925
[23] https://foodpackagingforum.org/resources/background-articles/phthalates accessed 2025-11-14

Organotin compounds

Organotin compounds mainly originated from antifouling paints, but more commonly used as catalysts in industrial production, stabilizers, biocides and surface disinfectants. Organotin compounds are harmful and toxic to the aquatic organisms at low concentration and have been linked to adverse effects in humans, such as reproductive toxicity and therefore many of these compounds are listed as substances of very high concern.

Volatile aromatic compounds (VAC)

Volatile aromatic compounds (VACs) have a chemical structure with one or more benzene rings within the molecule, e.g. toluene, benzene and xylene. Some VACs are very stable and have a specific impact on the environment and human health, including damage to DNA. They are used as additives in plastics or as monomers in production of binders for paints (e.g., styrene).

O15 Aromas, flavourings and fragrances

Aromas, flavourings, fragrances or other aroma compounds (e.g. essential oils, plant oils and plant extracts) must not be ingoing substances in the disposable product.

- Declaration from the manufacturer of the disposable product that there are no aromas, flavourings, fragrances or other aroma compounds as ingoing substances in the disposable product. Appendix 2 may be used.

Background to requirement O15

The requirement remains unchanged. Aromas, flavourings, fragrances, essential oils and plant oils and extracts often contain a number of allergens or carcinogens. To avoid adverse health effects from this type of substance, the use of aromas, flavourings, fragrances and other aroma compounds is prohibited.

O16 Adhesives

Ethylene glycol ethers or rosin must not be ingoing substances in adhesives. The exception is modified rosin derivative which is not classified as allergenic.

Formaldehyde generated during the production process may amount to no more than 250 ppm (0.0250% by weight) measured in newly produced polymer dispersion*. The content of free formaldehyde in hardened adhesive must not exceed 10 ppm (0.001% by weight)**.

Hotmelt adhesives are exempted from the requirement to document formaldehyde.

Information on test methods and analysis laboratories is provided in Appendix 12.

** Measured using the VdL-RL 03 method "In-can concentration of formaldehyde determined by the acetyl-acetone method" or the Merckoquant method (see Appendix X of RAL-UZ 102), or some other equivalent method.*

*** Measured using the Merckoquant method (see Appendix X of RAL-UZ 102), or some other equivalent method.*

- Safety data sheet for the product. Declaration from the adhesive producer that the requirement is fulfilled. Appendix 5 may be used. Results of analysis of the formaldehyde content of the adhesive.

Background to requirement O16

The requirement remains unchanged. Adhesive may be used to bond together the product or to affix coatings and labels and so on. In most cases, it is not in direct contact with food, but contact may occur unintentionally at the seams and edges or via migration through the packaging or in the gas phase for volatile compounds[24]. Many different types of adhesives may be used in materials in contact with food, depending on the material and function, including reactive polyurethane (PU) adhesive, adhesive based on natural polymers such as dextrin and starch, and hotmelt adhesive. Adhesives may contain problematic substances, and Nordic Ecolabelling therefore sets requirements concerning certain constituent substances in adhesives via the general chemical requirements in O12-O14 and other specific substances in this requirement.

Rosin is prohibited because it can cause contact allergies. Rosin is tapped from pine trees as a resin and extracted with turpentine. The blend contains many allergens. Formaldehyde is also allergenic, in addition to being classified as carcinogenic. A separate impurity limit has been introduced for formaldehyde. The content of formaldehyde must not exceed 250 ppm in newly produced polymer dispersion and there is a limit of 10 ppm in hardened adhesive. To document the requirement, one must submit the results of testing carried out in accordance with the Merckoquant method or the VdL-RL 03 method “In-can concentration of formaldehyde determined by the acetyl-acetone method.” If the VdL-RL 03 method is used, it must be calibrated to measure results <100 ppm in order to be valid. The formaldehyde requirement does not require documentation of hotmelt adhesives, since such adhesives do not contain these substances.

O17 Coatings and impregnations

Chromium compounds and fluorinated compounds must not be ingoing substances in the chemicals used for coating/impregnating/mixing into the pulp/paper/board/disposable product.

The following requirements apply to the silicone treatment of disposable products or parts thereof:

- Solvent-based silicone coatings must not be used.
- Octamethylcyclotetrasiloxane, D4 (CAS 556-67-2), decamethylcyclopentasiloxane, D5 (CAS 541-02-6) and dodecamethyl cyclohexasiloxane, D6, (CAS 540-97-6) must not be present in the chemical products used for silicone treatment. The requirement does not apply to D4, D5 and D6 contained as impurities in the ingoing silicone products (e.g. liquid silicones, silicone emulsions) to a multicomponent silicone formulation/silicone mixture in concentrations below 1000 ppm on dry silicone basis e.g. without solvent/water (0.1% by weight, 1000 mg/kg dry silicone), with this limit applied to each substance individually.
- Organotin catalysts must not be used in the production of the silicone polymer.

[24] Migration testing of adhesives intended for food contact materials, FEICA – Guidance paper, May 2016

- Declaration from the chemical supplier that chromium or fluorinated compounds are not ingoing substances in the coating/impregnation chemicals. Appendix 8 may be used. Safety data sheet for the product.
- Declaration from the manufacturer of the pulp, paper and board that no chromium or fluorinated compounds were added in the production of the pulp or paper and board.
- Declaration from the chemical supplier that octamethylcyclotetrasiloxane, D4, decamethylcyclopentasiloxane, D5, and/or dodecamethyl cyclohexasiloxane, D6, are not present in the ingoing silicone products used for silicone treatment in concentrations above 1000 ppm. State the amount of D4, D5 and D6. Appendix 7 may be used.

Background to requirement O17 Coatings and impregnations

The requirement has been changed to bring it in line with the requirement in the criteria for Greaseproof Paper generation 5 from 2023. The limit for Octamethylcyclotetrasiloxane, D4 (CAS 556-67-2), decamethylcyclopentasiloxane, D5 (CAS 541-02-6) and dodecamethyl cyclohexasiloxane, D6, (CAS 540-97-6) as impurities has been adjusted from 800 ppm in a coating bath of silicone emulsions to 1000 ppm on a dry silicone basis per commercial product/chemical product. This limit applies to each substance separately. Although the new limit might seem less stringent, it represents a significant tightening due to revised definitions. Beyond this, the requirement is unchanged.

Cyclic siloxanes

Commonly used siloxanes are the cyclic siloxanes cyclotetrasiloxane (D4), cyclopentasiloxane (D5) and cyclohexasiloxane (D6) and the linear polydimethylsiloxane (PDMS) also known as dimethicone. The cyclic siloxanes D4, D5 and D6 are toxic to human health and the environment having PBT and/or vPvB properties.

See also the background document for Greaseproof Paper for more information on the silicone requirement.

Chromium

Chromium coatings are no longer used in Europe, however, the requirement has been included to prevent their reintroduction via products imported from other parts of the world. Chromium compounds are not readily degradable and can accumulate in organisms to varying degrees. Hexavalent chromium compounds are classified as very toxic to aquatic organisms. Trivalent chromium compounds are generally somewhat less toxic, although certain species can be particularly sensitive to these. The emission of chromium to the waste system from factories or factory wastewater should thus be avoided.

Fluorinated substances

The requirement that coating/impregnation chemicals/chemicals added to pulp must not contain fluorinated compounds has not been changed since previous criteria generation. The

requirement has been set in order to prevent the dispersal of fluorinated compounds such as PFAS (perfluoroalkyl sulphonates) in the environment.

PFAS are used in paper food packaging for their ability to repel fat and water[25,26]. In 2020, Denmark passed into law that food contact materials (FCMs) must not contain PFAS, regardless of whether it has been added directly to the material or if its presence comes from the use of recycled fibre in the FCM. In January 2023, a restriction proposal with the aim to ban the use of PFAS in Europe was submitted to ECHA by authorities in Sweden, Denmark, Norway, Germany and Netherlands. The restriction proposal is still under evaluation by ECHA's scientific committees[27].

O18 Colourants for printing and dyeing

The requirement applies to colourants (pigment/dyes) and printing inks for printing, dyeing and shading used in the converting process of the disposable product. Colourants (pigment/dye) used in the paper and board manufacturing process should fulfil the requirements set out in the Chemical Module 3 or later.

Plastic products must not be dyed/coloured through or printed on, exemptions are allowed for small prints with a functional purpose, such as description field on freezer bags or label for sorting instructions. see O2.

All colourants (pigments/dyes) and printing inks must meet the following requirements:

- Substances that may release one or more of the aromatic amines listed in Regulation (EC) No 1907/2006 Annex XVII, Appendix 8, must not be used (E.g. Azo dyes, which by reductive cleavage of one or more azo groups).
- Mineral oil-based raw materials must not be used.
- The colourant (pigment/dye) must not be based on* the following metals: aluminium, silver, arsenic, barium, cadmium, cobalt, chromium, copper, mercury, manganese, nickel, lead, selenium, antimony, tin or zinc.
    - Exemptions: Copper in phthalocyanine pigment/dyes and aluminium in aluminosilicates are allowed.

** "Based on" refers to cases where the metal is covalently bound to the other constituents/elements of the pigment/dye and is not regarded as an impurity.*

- The metals/metalloids and their compounds listed in Table 6 must not be present in the colourant (pigment/dye). Traces of the following metals from residuals may be accepted up to the limits stated in Table 6, per single metal in each colourant, measured as the soluble (extractable) fraction, The soluble fraction must be determined according to HCl extraction (e.g. DIN 53770-1) or an equivalent method.

Table 6 Limit values for metals

Metals	Limit value (mg/kg;ppm)
Lead (Pb)	50
Cadmium (Cd)	10
Mercury (Hg)	1.0
Chromium (Cr VI)	25

[25] https://www.kemi.se/en/chemical-substances-and-materials/pfas
[26] https://taenk.dk/kemi/visit-our-english-version/test-chemicals-disposable-tableware (accessed 2025-11-17)
[27] https://echa.europa.eu/sv/-/echa-to-consult-on-pfas-draft-opinion-in-spring-2026 (accessed 2025-11-17)

Arsenic (As)	10
Antimony (Sb)	50
Cobalt (Co)	500
Nickel (Ni)	100
Copper (Cu)	40
Selenium (Se)	20
Barium (Ba)	100
Silver (Ag)	100
Tin (Sn)	250
Zinc (Zn)	1500
Iron (Fe)	2500
Manganese (Mn)	1000

In addition, the following must be fulfilled for the printing ink:

- Committing to the EuPIA "Guideline in Printing Inks applied to Food Contact Materials" May 2023 or later[28] which includes
  - EuPIA Exclusion Policy[29]
  - The EuPIA "Good Manufacturing Practices" GMP[30]
  - Statement of Composition (SoC)[31]
  - EuPIA Suitable list of Photo-Initiators[32]
  - EuPIA Guidance for RA of NIAS/NLS[33]
  - EuPIA members Self Commitment[34]
- Swiss Ordinance 817.023.21 Annex 10 must be fulfilled

In addition, for plastic products:

- Colourants must comply with BfR IX. Colorants for Plastics and other Polymers Used in Commodities.

- Declaration from the manufacturer of the printing ink that the requirement is fulfilled. Appendix 6 may be used.

- Safety data sheet for the printing ink.

- Solubility test report according to HCl extraction (e.g. DIN 53770-1) or an equivalent method.

[28] https://www.eupia.org/wp-content/uploads/2023/06/2023-05-18_EuPIA-Guideline-on-Printing-Inks-applied-to-Food-Contact-Materials.pdf
[29] https://www.eupia.org/wp-content/uploads/2025/04/Ed8_EP_final.pdf
[30] https://www.eupia.org/wp-content/uploads/2022/09/160331_EuPIA_GMP_4th_version_final.pdf
[31] https://www.eupia.org/wp-content/uploads/2022/09/2021-09-03_EuPIA_Customer_Guidance_Note_for_Using_Statements_of_Composition.pdf
[32] https://www.eupia.org/wp-content/uploads/2024/04/EuPIA-Suitability-List-2024_final.pdf
[33] https://www.eupia.org/wp-content/uploads/2022/09/2021-05-11-EuPIA_NIAS_Guidance.pdf
[34] https://www.eupia.org/our-commitment/commitments-related-to-the-manufacture-and-supply-of-food-packaging-inks/

Background to requirement O18 Colourants for printing and dyeing

When disposable products are in contact with food, it is considered particularly important to have a requirement for colourants for printing, shading and dyeing, since they can involve problematic substances, both concerning health and the environment.

The requirement has been changed and tightened since previous generation. The requirement must be documented by submitting safety data sheets for the printing ink used, test report and a declaration from the manufacturer of the printing ink showing fulfilment of the requirement. To be noted is that the general chemical requirements, such as the classification requirement O12 and the constituent substances requirements O13 and O14, also apply to printing inks. Background to the changes is described below.

The requirement has been clarified by adding definitions to colourant and printing inks. Colourant is a generic term for all colour giving substances[35]. Where dyes and pigments are a colour giving substance. Printing inks are mixtures of colourants with other substances which are applied on materials to form a graphic or decorative design[36].

Plastic products

The previous requirement O28 excluded plastic product to be dyed black. In the updated requirement O2, this has been tightened so that plastic products may not be dyed/coloured through or printed on. Exemptions are allowed for small prints with a functional purpose, such as description field on freezer bags or label for sorting instructions.

Paper and board products

Colourants (pigment/dye) used in the paper and board manufacturing process should fulfil the requirements set out in the Chemical Module 3 or later. This is in line with the other chemicals used in the production of paper and board. It will simplify the handling of the requirements concerning paper and board. Instead, this requirement O18 now only concerns colourants and printing inks used in the converting process of the disposable product.

The previous exemption for colourants that contains condensation products of aromatic sulfonic acids with formaldehyde used for paper and board is removed. Previously these colourants were needed to comply with BfR IX "Colorants for Plastics and other Polymers Used in Commodities" but is no longer relevant since this reference is removed and replaced by other requirements.

Colourants and printing inks

Printing inks consist of a combination of colourants (pigments and dyes), binders, solvents and additives. Inks are seldom used in direct contact with food but could migrate through the packaging material e.g. paper and board or also via set-off migration e.g. stacked coffee cups. There is overall concern that printed paper and board in contact with food contain and release chemicals of concern[37]. There is currently no specific regulation for printing inks

[35] https://www.bfr.bund.de/cm/349/IX-Colorants-for-Plastics-and-other-Polymers-Used-in-Commodities.pdf
[36] https://www.eupia.org/wp-content/uploads/2023/06/2023-05-18_EuPIA-Guideline-on-Printing-Inks-applied-to-Food-Contact-Materials.pdf
[37] Beuc (2019) "More than a paper tiger" European consumer organisations call for action on paper and board food contact materials. BEUC-X-2019-042 – 18/07/2019

used in food contact materials in Europe. However, the Framework regulation (EC) 1935/2004 apply to all food contact materials, FCMs. Which states that any potential transfer of chemicals to foods must not raise safety concerns, change the composition of the food in an unacceptable way or have adverse effects on quality (for instance, taste and/or odour). Furthermore Regulation (EC) No 2023/2006 Good Manufacturing Practice, GMP, sets out requirements for manufacturers practices. Which include among other that the printed surface shall not come into direct contact with the food and that documentation of compliance shall be available for the authorities.

Mineral oil based raw materials

Many print inks contain mineral oil based raw materials. These substances are subject to health concerns, such as being mutagenic and carcinogenic[38,39,40]. It is also negative out of a recycling perspective since it can stay as impurities in recycled fibres. France has with the French Circular Law (Loi) from 2020 in article 112 that use of mineral oils in packaging and in prints for the general public is prohibited[41]. EuPIA Guideline on Printing Inks applied to Food Contact Materials recommend to not use mineral oil-based raw materials in Food Contact materials, FCMs, inks[42]. Nordic Ecolabelling therefore sets a requirement that mineral oil based raw materials must not be used in printing inks.

EuPIA defines mineral oil as follows: Mineral oils are petroleum derived substances, produced by refining crude oils. They are manufactured by atmospheric and vacuum distillation (at temperatures between ~300ºC and ~700ºC) of crude oil and are then further refined. They consist of complex mixtures of hydrocarbon molecules of different size (20 to 30 carbon atoms) in which the carbon chains are linear, branched and/or cyclic. Types of mineral oils may be characterised by their content of paraffinic, naphthenic and/or aromatic structures. Mineral oils have to be distinguished from waxes and hydrocarbon solvents. Hydrocarbon solvents have a different manufacturing process which distinguishes them from mineral oil, with their chain lengths up to C20. The terms MOSH, MOAH, POSH, etc. are terms used to describe various components seen in chromatography, and do not necessarily align with the hydrocarbon derivatives used as raw materials.

Heavy metals and metalloids

This part of the requirement was previously referred to the Chemical Module for Paper Products, generation 2 but has now been incorporated and updated in this criteria document to apply for colourants and printing inks used in the converting process.

Nordic Ecolabelling restricts metals and metalloids of concern because they are toxic to people and other organisms on land and in aquatic environments and may accumulate in living systems. Chromium in particular hexavalent chromium, arsenic, cadmium, mercury

[38] EFSA. 2012. Scientific Opinion on Mineral Oil Hydrocarbons. EFSA Journal 10(6).
[39] EFSA. 2023. Update of the risk assessment of mineral oil hydrocarbons in food. EFSA Journal, 21(9), 1–143.
[40] Commisssion recommendation (EU) 2017/84 of 16 January 2017 on the monitoring of mineral oil hydrocarbons in food and in materials and articles intended to come into contact with food
[41] https://www.eupia.org/wp-content/uploads/2025/03/EuPIA-Information-Note-French-legal-texts-on-Mineral-Oils_202502_update.pdf#:~:text=Agec%20Law%20%E2%80%93%20Article%201121%20The%20French,oils%20in%20prints%20for%20the%20general%20public.
[42] https://www.eupia.org/wp-content/uploads/2023/06/2023-05-18_EuPIA-Guideline-on-Printing-Inks-applied-to-Food-Contact-Materials.pdf

and lead are specifically mentioned because they have the greatest potential to cause harm on account of their extensive use, their toxicity in certain forms and their widespread distribution in the environment.

The limit values are updated according to standard Nordic Swan Ecolabel requirements. In addition, it is now required to provide a test report. The limits apply to the bioavailable soluble fraction rather than to total elemental content bound in inert minerals. Metals that are tightly bound in an insoluble crystal lattice do not dissolve or migrate under foreseeable use and therefore do not drive exposure. Testing uses acid extraction, for example HCl extraction according to DIN 53770-1 or an equivalent method.

It is accepted that ingoing substances may contain residual traces originating from raw materials or processing. Such traces may be present up to the limit values in Table 6 per single metal and per raw material, provided they are measured as the soluble extractable fraction.

EuPIA "Guideline in Printing Inks applied to Food Contact Materials"

EuPIA is the European Printing Ink Association which outlines requirements and recommendations for the safe use of printing inks on materials intended to come into contact with food. It consists of several parts: EuPIA Exclusion Policy, The EuPIA "Good Manufacturing Practices" GMP, Statement of Composition (SoC), EuPIA Suitable list of Photo-Initiators, EuPIA Guidance for RA of NIAS/NLS and EuPIA members Self Commitment. Since there is not yet any specific European Union legislation concerning FCM printing inks, Nordic Ecolabelling therefore sets a requirement that the EuPIA guideline shall be followed.

Swiss ordinance

The Swiss Ordinance 817.023.21 is a Swiss legislation for materials and articles intended to come into contact with foodstuffs, and Annex 10 lists permitted substances in printing inks used for printing on said articles. It is now mandatory for printing inks to meet the recommendation for the Swiss Ordinance 817.023.21 Annex 10, which can be found on Swiss FSVO's website[43], in the previous criteria generation it was optional.

BfR IX Colorants for Plastic and other Polymers Used in Commodities

The requirement is updated by specifying that it applies to colourants used for plastic. The Federal Institute for Risk Assessment (BfR) provides a recommendation for colourants used in plastics that is well established in the industry, BfR IX. Colorants for Plastics and other Polymers Used in Commodities. BfR’s recommendations are a type of restriction list that sets maximum limits for the content of different substances, including heavy metals and aromatic amines. The recommendations can be found on BfR’s website[44].

[43] https://www.blv.admin.ch/blv/en/home/gebrauchsgegenstaende/materialien-in-kontakt-mit-lebensmitteln/verpackungen.html (accessed 2025-11-20)
[44] https://www.bfr.bund.de/en/service/databases/bfr-recommendations-on-food-contact-materials/

O19 Chemicals in coffee and tea filters

No adhesives or other chemicals may be added to the paper in the conversion process.

- Declaration from the manufacturer confirming that no adhesives or other chemicals are added to the paper in the conversion process for coffee and tea filters.

Background to requirement O19 Chemicals in coffee and tea filters

The requirement remains unchanged. The requirement has been set in order to limit the use of unnecessary chemicals such as adhesives or colourants, which may impact on health and the environment during use and production.

O20 Additives in plastic

Additives in plastic, such as stabilisers, antioxidants, plasticisers, colourants and fillers (except for inorganic fillers) must meet the requirement concerning classification of chemical products, O12, and the requirements concerning ingoing substances in the chemical products, O13 and O14.

- Declaration from the plastic manufacturer that the requirement is fulfilled. Appendix 9 may be used. Safety data sheet for the additive.

Background to requirement O20 Additives in plastic

The requirement remains unchanged, whereby additives in plastic materials have to meet the chemical requirements O12-O14.

O21 Residual monomers in synthetic polymers

Residual monomers that have a classification listed in Table 7 below shall only be present in the polymer raw material to a maximum of 100 ppm. The amount can be maximum 100 ppm residual monomer for each classification, in accordance with CLP Regulation (EC) 1272/2008.

The content of residual monomers must be measured on the newly produced polymer.

Table 7 Excluded classification of monomers.

Classification under CLP Regulation (EC) No 1272/2008		
Hazard class	**Category**	**Hazard code**
Carcinogenic*	Carc. 1A/1B Carc. 2	H350 H351
Germ cell mutagenicity*	Muta. 1A/B Muta. 2	H340 H341
Reproductive toxicity*	Repr. 1A/1B Repr. 2	H360, H361 H362
Specific target organ toxicity	STOT SE 1 STOT SE 2 STOT RE 1 STOT RE 2	H370 H371 H372 H373
Acute toxicity	Acute Tox. 1, 2	H330, H310, H300

	Acute Tox. 3	H331, H301, H311
Endocrine disruption for human health**	ED HH 1 ED HH 2	EUH380 EUH381

**Includes all classification variants (e.g. H350 also H350i).*

***See also requirement O14 Excluded substances for additional requirements for endocrine disruptors.*

- Declaration from the polymer manufacturer that the content is no more than 100 ppm. Appendix 9 may be used.

Background to requirement O21 Residual monomers in synthetic polymers

The requirement has been updated with the addition of excluded classifications for Specific target organ toxicity, acute toxicity and Endocrine disruption. These are general chemical requirements that Nordic Ecolabelling sets in many criteria documents and has therefore introduced here. Residual monomers in polymers can cause negative health effects, for example due to their carcinogenic properties. Monomers are often very reactive, and the risk is considered so high that a separate requirement to further limit the level of residual monomers in the polymer is included.

Many monomers are volatile and tend to reduce over time. Therefore, the requirement applies to newly produced polymers, focusing on reducing exposure at the source. It is most practical for the polymer manufacturer to perform the analysis.

Examples of residual monomers that may be present in polymers used in materials in contact with food are styrene from the production of polystyrene and bisphenol A from polycarbonate. The requirement limit is 100 ppm, which corresponds to the general impurities limit with regard to substances in chemical products.

O22 Chemicals – recycled plastics

Additives in recycled plastic must meet requirements O12, O13 and O14.

Recycled plastic shall be tested for intentionally (IAS) and non-intentionally added substances (NIAS). Procedure for testing must be implemented, including when new tests are assessed as necessary.

The following are exempt from testing:

- Recycled plastic from production lines where the whole production chain is known and where it can be shown that the plastic does not contain substances above the limits set in EU 2022/1616.

- Declaration from the supplier of the recycled plastic that any additives meet requirements O12, O13 and O14.

- Submit written procedure for testing of recycled plastics which is implemented in the company: short description of testing approach, methods and frequency, including the migration media used.

- When using an exemption for material from production lines with known production chain: The plastic supplier must submit description of the production lines, the type of

products produced and how it can be shown that the plastic does not contain substances above the limits set in EU 2022/1616.

Background to the O22 Chemicals - recycled plastics

The requirement is updated. As in the previous generation, it is important that the recycled plastics do not contain chemicals that are otherwise not permitted in virgin plastic. The requirement therefore states that the additives in recycled plastic must meet O12, O13 and O14.

Recycled plastic may contain unknown substances and be polluted with substances that should not be present in food contact materials. As use of recycled plastics in contact sensitive packaging is being increased, e.g. by the PPWR, it is even more important that recycled plastics are tested for unwanted substances. Therefore, Nordic Ecolabelling sets requirement that recycled plastics must be tested and testing procedures must be implemented to ensure compliance with Framework Regulation (EC) No 1935/2004 on materials in contact with food. Testing approach, test methods and testing frequency, including migration media must be declared.

Recycled plastic shall be tested for intentionally and non-intentionally added substances (NIAS). EU 2022/1616 for recycled plastics sets specific limit values for substances which can be used in recycled plastics. Intentionally added substances (IAS) are substances that are intentionally added during the manufacturing process of the finished product. EU Regulation 10/2011 concerns plastic materials and products intended to come into contact with food, including plastic layers in multi-material multi-layered products (MMML). This regulation specifically regulates migration of IAS from these materials.

Non-intentionally added substances (NIAS) are chemical compounds that are not added intentionally during the manufacturing process, but which may occur in the product. NIAS may originate from various sources and include degradation products from materials in contact with food and contamination with adverse products from the original material[45]. These can migrate to food, and consumers can thereby probably be exposed to these chemicals.

5.4 Food contact

O23 Materials in contact with food

The product must comply with Regulation (EC) No 1935/2004, as amended, on materials and articles intended to come into contact with food and the production of the product must comply with the Regulation (EC) No 2023/2006 on good manufacturing practice for materials and articles intended to come into contact with food.

In addition, the following requirements for plastics and for pulp, paper and board apply:

Plastics

If the product comprises or contains parts made from plastic, it must comply with Regulation (EU) No 10/2011, as amended, on plastic materials and articles intended to come into contact with food.

[45] Non-intentionally added substances (NIAS) | Food Packaging Forum

For recycled plastic, see also O2.

Pulp, paper and board

The final product made of pulp, paper and board, must meet the following recommendations:

- BfR's recommendation XXXVI. Paper and board for food contact, from October 2025 or more recent versions, and
- Cepi's Food contact guidelines Industry guideline for the Compliance of Paper & Board materials and articles, April 2019 or more recent versions.

Fulfilment of the requirements must be certified/evaluated by an independent third party.

It is emphasized that the requirements of this criteria document are superior to the requirements in regulations and recommendations. This means that a chemical may be prohibited in a Nordic Swan Ecolabel disposable product, although permitted by regulations and recommendations.

- Copy of the certificate or declaration from an independent third party, confirming fulfilment of the requirement.

- For products made from pulp, paper and board, a Declaration of Compliance (DoC) in line with the Cepi's Guidelines shall also be enclosed, see list of contents in table 3 in Cepi's Guideline.

Background to requirement O23 Materials in contact with food

The requirement is changed. BfR's recommendation XXXVI has been updated to the latest reference from 2025 and Cepi's Food contact guidelines updated with reference to 2019. Previously the product needed to comply with one of the two alternatives. Now both BfR's recommendation and Cepi's guidelines must be fulfilled. These recommendations and guidelines are well known in the industry, at least in the Nordic countries. Cepi's Guideline outline the core requirements for paper manufacturer including e.g. Declaration of Compliance (DoC). The Declaration of Compliance (DoC) is the core document which the manufacturer of paper and board materials and articles is expected to produce in order to communicate compliance with the Framework Regulation. The Framework Regulation requires that food contact materials which are subject to a specific measure must be accompanied by a written declaration stating that they comply with the applicable rules. In the case of paper and board, for which no specific measure currently exists, these rules are contained in the Framework Regulation and included in the Cepi's Guidelines. Although not strictly legally required until a specific measure is in place, it is the most appropriate tool for communication in the supply chain and represents current best practice. Cepi's Food contact guidelines shall therefore be followed and as a documentation a declaration of Compliance (DoC) shall be enclosed.

There are no regulatory requirements for products made from paper or board, beyond the general legislation (Framework Regulation (EC) No 1935/2004). The requirement represents additional assurance that the products are safe to use, regardless of the country of manufacture. The requirement must also be documented via a confirmation from an independent third party.

5.5 Recycling design

This section set out requirements to ensure a greater degree of material recycling of the products.

Background to Recycling design

Waste processing is an important parameter when it comes to the environmental impact of a disposable product. These products are generally used only once and thus generate a great deal of waste. The requirements are set to ensure a greater degree of material recycling of the products, so that the materials can be used again, thus contributing to the circular economy. The EU's waste management hierarchy in its Waste Framework Directive [46] sets out a list of priorities for legislation and policy that focus on preventing and handling waste. This is often illustrated by a waste pyramid. The most important thing is to prevent waste, followed by reuse, recycling, energy recovery and landfill. The aim is that the waste should be processed as close to the top of the hierarchy as possible. In the EU's action plan "Closing the loop – An EU action plan for the Circular Economy"[47] increased recycling and material recycling is highlighted as a key aspect of the circular economy. It is also the aim with the new PPWR regulation. Nordic Ecolabelling therefore considers requirements addressing material recycling to be important. It is emphasized that combustion with energy recovery is not considered as material recovery.

O24 Biodegradable/compostable polymers in plastic products

Products that only consist of plastic must not comprise polymers/plastics that cannot undergo material recovery in current recycling plants.

"Polymers/plastics that cannot undergo material recovery" refers to biodegradable/compostable plastics such as PLA.

Combustion with energy recovery is not considered as material recovery.

- Documentation showing the product's constituent materials, see O1.

Background to requirement O24 Biodegradable/compostable polymers in plastic products

The requirement remains unchanged. Nordic Ecolabelling wishes to promote products made from renewable raw materials. At the same time, the waste phase is considered a key parameter in the disposables, since it generates large quantities of waste. Compostable/biodegradable plastics such as PLA cannot be recycled in today's systems, and they can also cause problems for the existing recycling process. Such compostable/biodegradable plastics therefore do not fit in with the EU's goal of increasing recycling and promoting a circular economy. Composting and biogas facilities also do not want these plastics, since they create problems in the plants. Materials other than organic waste are sorted before the composting or biogas process. Nordic Ecolabelling therefore proposes that products that only consists of plastic, such as bags for fruit and vegetables,

[46] Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste
[47] Closing the loop – An EU action plan for the Circular Economy, EU Commission 2015 http://eur-ex.europa.eu/resource.html?uri=cellar:8a8ef5e8-99a0-11e5-b3b7-01aa75ed71a1.0001.02/DOC_1&format=PDF

boxes for salads or plastic cups, cannot be made from compostable/biodegradable plastic. Compostable/biodegradable plastics may, however, be used as a laminate, coating, etc. in contexts such as board products or as the plastic window in a bread bag. In such cases, the plastic will be sorted out and sent for incineration, as is the current procedure. Nordic Ecolabelling wishes to point out that this requirement may be changed if, in the future, there is a recycling system for compostable/biodegradable plastics.

O25 Mixing different materials

The mixing of polymer and pulp/paper/board, where the materials cannot be separated from each other in a material recycling process* or easily by the consumer (using just their hands), is not permitted.

** Use of laminates, plastic coatings including polymer dispersion on paper and board-based products is exempted from the requirement, since these can be separated from the paper/board material in the recycling plants.*

- Description of the materials in the product and documentation showing fulfilment of the requirement.

Background to requirement O25 Mixing different materials

The requirement remains unchanged. One of the clearest guidelines for the material composition of the product is that the product should be produced from materials that can be incorporated into existing recycling systems. Good material composition is not, however, determined simply by which materials make up the product, but also how they relate to each other. There are products that may comprise a mix of materials that cannot be separated from each other. In such a product, the materials cannot be recovered and will be sent for incineration instead. It is this kind of product that Nordic Ecolabelling wishes to cover in the requirement. Plastic coatings on board do not cause a problem and are therefore exempt.

O26 Adhesive for labels

Adhesive used to attach a label to the disposable product must be hotmelt adhesive (melts at 60–80°C) or water-soluble and alkaline.

- Documentation (e.g. product data sheet) for the adhesive, showing that it is water-soluble and alkaline, or that it is a hotmelt adhesive.

Background to requirement O26 Adhesive for labels

The requirement remains unchanged. For the recycling process to work optimally, it is preferable that the glued label can be removed from the material that is to be recycled[48,49] and Hotmelt adhesive or water-soluble adhesive should be used to make the labels more easily removable.

[48] Paper Packaging Design guidelines for recycling and circularity - A manual from Näringslivets Producentansvar V 1.0
[49] Plastic Packaging Design guidelines for recycling and circularity - A manual from Näringslivets Producentansvar V 1.0

O27 Recyclability and labelling

Recyclability

- The product must be recyclable *

or

- consist of 100% renewable materials such as wood or palm leaves provided that the product is not added/surface treated with chemicals or coated with other materials.

Information about compostable/biodegradable

It is prohibited to label product and packaging with compostable **, biodegradable or other similar statements.

Labelling

For products that the consumer buys, e.g. freezer bags, plates, cutlery, cups/glasses the following applies:

- the main material in the product must be specified, e.g. "paper cup", "plastic"
- it must be labelled with the following information: sort correctly - do not throw in nature ***
- the information must be on the product and/or packaging
- the information must be in the form of text (EUPicto eupicto.com European standards e.g. DIN 6120, section 2 or recommendations from national recycling systems)
- the information must be visible and readable to the consumer
- the information can be embossed, stamped or printed on

For products sold to the professional market (B2B) such as restaurants, cafés, hotel/conference facilities, gas stations and the like, e.g. coffee cups, salad bowls, bags and paper for food wrapping the following applies:

- the main material in the product must be specified
- it must be labelled with the following information: do not throw in nature ***
- the information must be on the product ****
- the information can be in the form of text and/or symbol (EUPicto eupicto.com European standards e.g. DIN 6120, section 2 or recommendations from national recycling systems) the information must be visible and readable to the consumer
- the information can be embossed, stamped or printed on

** Incineration with energy recovery is not considered as material recovery.*

*** Exceptions are given for coffee filters.*

**** Exemptions are given for cups labelled in accordance with Article 7 of the EU Single-use plastics directive (EU Directive 2019/904). They must instead use the marking requirements set out by SUPD "Plastic in product".*

***** Exceptions are given for products where it is technically difficult to label the product due to its design and size, e.g. cutlery, straws and stirrers. In such cases, the information must be on the packaging.*

- Provide documentation to show that the product is recyclable (how the material can be recycled in existing waste and resource systems in the Nordic region) or that it consists of 100% renewable material, such as wood or palm leaves.
- Provide documentation such as images of the stamp, label, artwork or similar, showing fulfilment of the requirement.

Background to requirement O27 Recyclability and labelling

The requirement remains mainly unchanged apart from updates for the labelling of the product. An addition has been made for cups labelled in accordance with Article 7 of the EU Single-use plastics directive (EU Directive 2019/904), that must use the marking requirements set out by SUPD "Plastic in product". Furthermore, the requirement specifies pictograms that can be used to for information on how it should be sorted for recycling.

The requirements intention is to guide the consumer to sort.

Recyclability

The requirement remains unchanged. The product should be recyclable, but for some product types such as wood cutlery and products of dried palm leaves, there is no material recovery fraction for such products today. The products in question, however, are simple products that are based on renewable raw materials without significant processing. Nordic Ecolabelling therefore wishes to be able to label these and therefore states in the requirement that the product must either be possible to recycle or consist of 100% renewable materials, provided that the product is not added/surface treated with chemicals or coated with other materials.

Compostable/biodegradable

The requirement remains unchanged. The requirement states that it is prohibited to label product and/or packaging with compostable/biodegradable or similar statements such as biogas production. Composting is currently not a very relevant treatment path for products in the Nordic countries. There are no major industrial composting plants to any extent, so industrial composting according to standard EN13432 is not applicable. This is the standard that many of the so-called compostable products meet. Labelling such as "compostable" and "biodegradable" can also confuse the consumer, and in the worst case, the product may end up in nature.

Labelling

The requirement remains unchanged. However, it is updated to include examples on specified pictograms on how the product can be sorted for recycling. The waste stage is affected by many factors, such as the sorting options in each country or local authority, and how the consumer ultimately sorts the waste. However, Nordic Ecolabelling can generally encourage greater recycling of packaging by setting requirements that support recycling options. These requirements also prepare manufacturers for recently published Packaging and Packaging Waste Regulation (PPWR). The Commission shall also adopt implementing acts to establish a harmonised label and specifications for material composition in order to facilitate consumer sorting. Until then, the packaging can be marked with pictograms given in the requirement. Pictograms of EUPicto (eupicto.com) are developed in the Nordic countries.

DIN 6120-2 is a standard for marking of packaging and packaging materials for recycling. To be noted it is not required that the product must be labelled with which waste fraction the product is to be sorted into. If the licensee writes something about how the product is to be sorted/recycled, it is important that the licensee is aware of what applies in the market in which the product is sold. This is not something Nordic Ecolabelling requires and controls. It will be up to the licensee to investigate this with the authorities and organizations in the country in question.

In addition, there should be information that says that the product should not be thrown in nature. The information provided must be visible and readable to the consumer. By this is meant e.g. that the information must be of a certain size.

It is chosen to keep a distinction between products that the consumer buys with them and products that are sold to the business market such as cafés, restaurants, conference facilities and the like. For products that the consumer buys with them at home, the label can be on the packaging and/or the product. The marking must be in the form of text, as text is easier for the consumer to understand than symbols. For the products sold to the professional market and typically used as take-away, the information must be on the individual product. This is because in such cases the consumer never sees the packaging in which the products are packed. In order for the consumer to be guided, it is therefore important to have the labelling on the product itself. The labelling can be done with text or symbol, e.g. symbol showing "throw in trash", "don't throw in nature":

For some product types, it will be technically difficult to have information on the product itself due to the design and size of the product. This applies for example to cutlery, straws and stirrers. In such cases, the information may be on the packaging.

5.6 Product properties

O28 Information about properties

Product data sheets are to be drawn up for all the relevant languages for the Nordic Swan Ecolabelled disposable product. The product data sheet must, as a minimum, contain information about the properties of the product as stated in Appendix 13 – if they are relevant for the product type.

Documentation must show that the disposable product has the properties which the product is marketed as having and which are stated on the product data sheet. The documentation should, in the first instance, be a standardised test. If no standardised tests are available for the property in question, an argument in favour of the chosen test conditions is to be put forward. The test may either be a laboratory test or relevant internal quality tests. Where standardised test methods exist for the properties, these must be used. No specific quality certification of the test laboratory is required.

- Product data sheet for the Nordic Swan Ecolabelled disposable product, plus a report of the test results.

Background to requirement O28 Information about properties

The requirement remains unchanged. Generally, it is important that packaging, materials and products are only used for the purposes for which they are designed. Both businesses

and consumers should follow the user instructions and so on, in order to ensure that there is no contamination due to incorrect use. It is therefore important that a product data sheet is provided, documenting properties for the Nordic Swan Ecolabel disposable product. The requirement has been set to ensure that information about the product's properties accompanies all Nordic Swan Ecolabel disposable product, irrespective of where the product is manufactured.

O29 Quality requirement for coffee and tea filters

Coffee and tea filters must be tested for seam strength and filtration properties. The seam strength must not be less than 10 N/m or 0.15 N/15 mm, and it must be measured directly after production in line with ISO 3781. Alternatively, a test that an independent and competent body judges to be an equivalent may be approved. The seam strength can be measured by the filter manufacturer.

- Test results for seam strength and filtration properties.

Background to requirement O29 Quality requirement for coffee and tea filters

The requirement remains unchanged. The seam strength must be tested in line with ISO 3781 or a corresponding test, if an independent and competent body judges it to be equivalent. No international standards for filtration have been found that are worth referring to. It is nevertheless important that a coffee and tea filter meets normal requirements for filtration. As there is no standardised test, the way the manufacturer documents this is more open. The test may be a laboratory test, the applicant's internal quality test, a consumer test or a comparative test with an equivalent product.

5.7 Licence maintenance

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

O30 Customer complaints

The licensee must guarantee that the quality of the Nordic Swan Ecolabel product or service 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.

- Upload your company's routine for handling and archiving customer complaints.

Background to requirement O30 Customer complaints

Nordic Ecolabelling requires that your company has implemented a customer complaint handling system. To document your company's customer complaint handling, you must upload your company's routine describing these activities. The routine should be dated and signed and will normally be part of your company's quality management system.

If your company does not have a routine for customer complaint handling, it is possible to upload a description of how your company perform these activities. During the on-site visit, Nordic Ecolabelling will check that the customer complaint handling is implemented in your company as described. The customer complaints archive will also be checked during the visit.

O31 Traceability

The licensee must be able to trace the Nordic Swan Ecolabel 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.

You can upload your company's routine or a description of the actions to ensure traceability in your company.

- Upload your routine or a description.

Background to requirement O31Traceability

Nordic Ecolabelling requires that your company has implemented a traceability system. To document your company's product traceability, you must upload your company's routine describing these activities. The routine should be dated and signed and will normally be part of your company's quality management system.

If your company does not have a routine for product traceability, it is possible to upload a description of how your company perform these activities. During the on-site visit, Nordic Ecolabelling will check that the product traceability is implemented in your company as described.

6 Environmental impact of Disposables for food and beverages

The relevant environmental impacts found in the life cycle of Disposables for food and beverages are set out in a MECO scheme below. A MECO describes the key areas that have impact on the environment and health throughout the life cycle of the product – including consumption of materials/resources (M), energy (E), chemicals (C) and other impact areas (O).

Nordic Ecolabelling sets requirements concerning the topics and processes in the life cycle that have a high environmental impact – also called hotspots. Based on the MECO analysis, an RPS tool is used to identify where ecolabelling can have the greatest effect. R represents the environmental relevance; P is the potential to reduce the environmental impact and S is the steerability on how compliance with a requirement can be documented and followed up. The criteria contain requirements in those areas in the life cycle that have been found to have high RPS, since there is potential to achieve positive environmental gains.

The production of raw materials is the life-cycle phase with the greatest environmental impact for disposable products, particularly in terms of energy use and climate emissions. The next most significant phase is the end-of-life phase. Because these products are, by definition, single-use, they will generate substantial amounts of waste. Finally, since disposable products come into direct contact with food, it is highly relevant to set requirements that reduce potential exposure to chemicals that may be harmful to human health.

RPS scheme

Life cycle stages	Area and assessment of R, P, S (high, medium or low)	Comments
Raw materials		
	Wood based raw material R: High P: High S: High	Raw material production is the life cycle phase with the greatest environmental impact in terms of energy consumption and climate impact. Regarding wood raw material in paper and board products, there are several key areas of environmental impact such as energy consumption, chemical use, emissions to water and air, and forestry practices. There is high relevance for the origin of fibre raw material used in the disposable product. From environmental point of view, it would be relevant to promote use of recycled fibres but as the disposable product is mainly in contact with food, safety and quality aspects are of high priority. Recycled fibres may contain unknown substances and be polluted with substances that should not be present in products used in food contact materials (FCMs). Therefore, only virgin fibres shall be used in Nordic Swan Ecolabel (NSE) disposable product. When virgin fibres are used, forestry operations can have a marked impact on forest life through e.g. loss of species and deterioration of ecosystems. There is high RPS to set requirements for origin and certification of fibre raw materials by using independent third-party certifications schemes such as FSC and PEFC. This is to ensure that fibres come from controlled sources and sustainably managed forests.

		Nordic Swan Ecolabel also set requirements for restricted tree species that cannot be used in NSE products, to protect the forest as a habitat and preserve biodiversity.
	Manufacturing - Pulp R: High P: High S: High	Production of pulp is energy intensive and generate emissions to water and air. Therefore, NSE sets requirements on fuel and electricity use, emissions of sulphur (S), NOx and greenhouse gases to air. Emissions to water such as chemical oxygen demand (COD), phosphorus (P) and adsorbable organically bound halogens (AOX) are also restricted. By setting requirements for these, Nordic Ecolabelling contributes to reduced climate impact, reduced acidification of the atmosphere and eutrophication of water sources.
	Manufacturing - Paper and board R: High P: High S: High	Paper and board manufacturing is highly energy intensive. The generation and use of energy results in various environmental impact, see the pulp production above. It is, thus, highly important to focus on energy consumption when trying to reduce the environmental impact of the paper and board.
	Synthetic Polymers R: High P: Medium S: Medium	Synthetic polymers/Virgin fossil-based polymers: Plastic production is energy and resource intensive. There is considerable relevance in setting requirements concerning fossil-based polymers. However, the potential and steerability are low due to lack of site-specific data. The amount of fossil plastics can, however, be restricted in the products. By using recycled or bio-based plastic instead of fossil-based virgin plastic, climate impact can be reduced. Bio-based polymers: Renewable materials contribute to sustainable development through reduced use of materials from fossil sources. However, materials based on renewable raw materials are not automatically sustainable. There are several key problems concerning the cultivation and production of the renewable materials, such as land use in competition with food production, use of genetically modified organisms and energy and chemical use in the processes. There are currently few businesses that produce bio-based polymers on a large scale. This limits the scope to control the environmental impact through an energy requirement. Nordic Ecolabelling wishes to contribute to the “green shift” through increased use of sustainable bio-based material. Requirements are therefore set to responsibly sourced feedstock through requirements ensuring traceability and high percentage of certified raw material. Certain raw materials such as palm oil and soy are banned. Recycled plastic: Material recycling is preferable, since resources remain in the eco-cycle and can be used again. Therefore, use of recycled plastic is allowed in the NSE disposable product. Recycled plastic may, however, contain unknown substances and be polluted with substances that should not be present in food contact materials. The recycled plastic must fulfil Regulation EU) 2022/1616 on recycled plastic materials and articles intended to come in contact with foods. To make sure that the regulations are followed and plastic is safe in use, only the recycling processes that are approved and published on EU's official list are approved by Nordic Ecolabelling. Recycled plastics shall also be tested for intentionally and non-intentionally added substances.
	Chemicals harmful to health and environment R: High P: Medium S: Medium	The chemicals used in both the plastics and the paper industry can have problematic environmental and health properties. They can be not readily biodegradable and can bioaccumulate in organisms. Other chemicals may e.g. be carcinogenic and disruptive to endocrine functioning. There is high RPS to set strict requirements for chemicals used in manufacturing of raw materials in order to reduce the use of harmful chemicals and to ensure that consumers are not exposed to these in the use stage.

Production/distribution		
	Manufacturing of the final disposable product R: Low P: Low S: Medium	As the main environmental impact comes from manufacturing of pulp and paper and plastic materials, there are no other requirements set to conversion process due to low R excluding requirements for chemicals and waste, see chemicals in use phase and waste in end of life.
	Material efficiency R: High P: Low S: Low	Using less material for the same function in the disposable product generally reduces environmental impact. However, the producers already work to minimise material use, and current designs are optimised for their intended purpose. The potential and steerability for NSE to introduce additional specific requirements in this area is limited.
Use phase		
	Chemicals R: High P: High S: High	Given that disposable products come into contact with food, there is high relevance to set requirements that decrease potential exposure to chemicals harmful to health such as CMR substances, allergenic substances, endocrine disrupting substances etc. Therefore, requirements are set on adhesives, printing inks, coatings and various additives used in manufacturing. Steerability is considered to be relatively good in this field. It is important that the manufacturer of the Nordic Swan Ecolabel disposable product has control over the input materials and chemical substances used in production.
End of life		
	Material recycling R: High P: Medium S: Medium/Low	The products are by definition disposable items generating substantial amount of waste. Production of the raw materials is the life cycle phase with the greatest environmental impact, followed by the waste phase. The waste phase is affected by many factors, such as the waste recycling facilities available in the country and municipality, and the waste disposal method chosen by the consumer. The majority of the products may end up as household waste or waste from restaurants or in public litter bins. Depending on the waste sorting options available, waste processing may involve composting, incineration, recycling or landfill. Material recycling is preferable environmentally, since the resources remain in the eco-cycle and can be used again. In many cases, it is possible to sort these products for recycling despite the aforementioned challenges in material recovery. Steerability over waste management is relatively low, due to the differing waste management systems in the Nordic region, but there is a possibility of influencing the way the product is disposed of through clear instructions for sorting on the product. There is also good steerability in setting requirements for recycling design of the product. For example, some bio-based plastics that cannot be recycled in current recycling plants or may even create problems in existing plants are banned.

MECO scheme

	Raw material	Production	Use	End of life
Material	Choice of raw materials has major environmental impact. Agriculture and forestry raw materials for wood raw materials, pulp, paper, board and bio-based plastic. Fossil oil for virgin plastic Recovered plastic material for recycled plastic	Converting process assembly of ingoing materials	Single-use; no additional material or energy inputs during use.	Recycling is environmentally preferable. Recycling: Paper-based products beneficial with less coating. Sorting instructions for products soiled with food varying in different countries. Certain plastic can be recycled (oxo- and biodegradable plastic cannot be recycled) Incineration Landfill Composting, especially for filter papers
Energy	Energy for production of materials (choice of energy source important for climate change): Wood Paper, board (pulping, refining, drying) Plastic/virgin, bio-based polymers (polymerisation, extrusion) Recycled plastic (chemical or mechanical process, chemical recycling has high energy consumption)	Energy for converting process Paper and board (forming, bonding, printing) Moulded pulp (wet moulding, drying) Solid wood (veneer shaping) Bio-based and recycled plastic (extrusion, thermoforming/blow moulding)	Negligible (single-use items)	Energy recovery from incineration of products.
Chemicals	Fertilisers and herbicides Chemicals for production processes of pulp/paper/board and monomer/polymer/plastic Emissions to air and water from pulp/paper/board production	Colourants, coatings, adhesives	Risk for migration and exposure to substances harmful to health: Primary aromatic amines (PAAs), Photoinitiators (PIs), PFAS, mineral oil, phthalates	Landfilling organics may produce methane (CH_4) Modern EU incineration plants control pollutants (NO_x, dioxins) to strict limits
Other	Biodiversity and ecosystem impact from resource extraction. Raw material production competing with food production. Avoid deforestation and degradation from illegal and unstainable harvesting.	Short product lifetime highlights need for efficient designs (lightweight, mono-material)	Risk for littering in nature. Consumer sorting crucial; clear recycling labels	Design of product to simplify recycling.

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7 Areas without requirements

Microplastic

As in the previous criteria, no requirements for microplastics are included. Microplastic are on the exclusion list of the Chemical Module, 3 for Paper Products. However, polymer dispersions have been exempted from the requirement for microplastics.

As polymer dispersions are widely used in coatings, adhesives and printing inks in manufacturing of disposable products, a separate requirement for these is not considered relevant in this generation of the criteria.

8 Future criteria generation

Points will be added after the consultation.

9 Criteria version history

Criteria history will be added after the consultation.

10 How to apply and regulations for the Nordic Ecolabelling

Application and costs

For information about the application process and fees for this product group, please refer to the respective national website. For contact information see the beginning of this document.

The application consists of an application form/web form and documentation showing that the requirements are fulfilled.

Licence validity

The Nordic Swan Ecolabel licence is valid providing the criteria are fulfilled and until the criteria expire. The validity period of the criteria may be prolonged or adjusted, in which case the licence is automatically prolonged, 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.

Responsibility for Compliance with Applicable Legislation

When applying for the Nordic Swan Ecolabel, the applicant/licensee confirms compliance with all current regulatory requirements related to both the exterior and interior environment in connection with the production and handling of the product(s) covered by the application. Furthermore, the applicant declares that all applicable regulatory requirements within the

Nordic region are met for the product(s). Compliance with these regulations is a prerequisite for obtaining a licence.

On-site inspection

In connection with handling of the application, Nordic Ecolabelling normally conduct on-site inspection visit/-s to ensure adherence to the requirements. Scope and timing of on-site inspection is evaluated per PG and adapted to specific application situation.

Queries

Please contact Nordic Ecolabelling if you have any queries or require further information. See contact info in the beginning of this document. Further information and assistance (such as calculation sheets or electronic application help) is available. Visit the relevant national website for further information.

Follow-up inspections

Nordic Ecolabelling may decide to check whether the disposable for food and beverage 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 the disposable for food and beverage does not meet the requirements.

Random samples may also be taken in-store and analysed by an independent laboratory. If the requirements are not met, Nordic Ecolabelling may charge the analysis costs to the licensee.

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-swan-ecolabel.org/regulations

Appendix 1 Overview for declaration and documentation

Appendix number	**Title**	**To be completed by**
2	General information about the product	The manufacturer of the disposable product
3	Forestry requirements	The producer of the wood/pulp/paper/board
4	Other chemical products	Chemical product manufacturer
5	Adhesive	Chemical product manufacturer
6	Colourants/printing inks	Chemical product manufacturer
7	Silicone coating	Chemical product manufacturer
8	Coating/impregnation chemicals	Chemical product manufacturer
9	Plastics	Polymer/plastic manufacturer
10	Raw materials for bio-based polymers	
11	Directions for raw material standards and certification schemes	
12	Analysis and laboratories	
13	Information on properties	The manufacturer of the disposable product

Appendix 2 General information about the product

To be used in conjunction with an application for a licence for the Nordic Ecolabelling for Disposables for food and beverages, generation 5. For the requirements O1, O2, O3 and O15.

Manufacturer of the product:	
Brand/trading name of the product:	
Type of product (e.g. cup, coffee filter)	
Point of sale (e.g. grocery shops, web-shop, take-away industry):	

O2 Material composition	**Yes**	**No**
Does the disposable product contain metal?		
Does the disposable product contain recycled pulp/paper/board?		
Does the disposable product include individual packaging?		
Does the disposable product contain bio-based materials? State the share of bio-based materials in the product:		
Does the disposable product contain recycled plastic*? State the share of recycled plastic in the product: ** According to ISO 14021.*		
Does the disposable product contain post-consumer recycled plastic*? State the share of post-consumer recycled plastic in the product: ** According to ISO 14021.*		
Is the recycling process approved in the community register of authorised recycling processes, as stated in Annex I in the regulation 2022/1616? Specify name of the recycling process and name of company of the approved process:		
Is the plastic product coloured, dyed or printed on? Exemptions are allowed for small prints with a functional purpose, such as description field on freezer bags or label for sorting instructions. If yes, please describe and enclose a photo of the product showing the print. State the name of the attachment:		
O3 Halogenated plastic	Yes	No
Does the disposable product including cores, other parts and packaging contain halogenated plastic e.g. polyvinyl chloride (PVC) and polyvinylidene chloride (PVDC), oxo-degradable plastic and biodegradable plastic?		
O15 Aromas, flavourings and fragrances	Yes	No
Does the disposable product contain aromas, flavourings, fragrances or other aroma compounds (e.g. essential oils, plant oils and plant extracts)?		

Description of the manufacturing/production process

Attach a description of the manufacturing/production process including the converting process for the product. If Subcontractor's are used, they must be specified by business name, production site, contact person and the production processes they perform (e.g. printing), Table S1 below can be used.

Table S1 Overview of materials, suppliers and amounts

Name of the subcontractor	Manufacturing/Production place	Contact person	Manufacturing/production process

In Table S2 constituent materials in the product and if applicable other parts that are a part of the disposable article, must be stated. Supplier/manufacturer of the different materials and the weight of material as well as the percentage by weight of the material related to the total weight of product must also be stated. Coatings and adhesives are to be included in the material composition calculation. Other chemicals, such as printing inks and additives, should not be included in the weight calculation. Inorganic filler** should not be counted in the proportion of non-renewable materials.

*** Examples of inorganic fillers are kaolin, calcium carbonate and clay.*

Chemical products used in the production/composition (conversion) of the disposable product, such as adhesives, printing inks and coatings must also be listed. The chemical products must fulfil the chemical requirements O12-O14. Manufacturer/supplier of the chemical product can use Appendix 4-8 to document these requirements.

Table S2 Overview of materials, suppliers and amounts

Material/Chemical product (Specify polymer type, paper type etc.)	Function	Supplier/manufacturer of the material	Weight (gram, or kg) of the material in the product	Weight-% of the material in relation to total weight of the product	Is the material bio-based? Yes or No.	Is the material recycled? Yes or No.
Total weight				100%		

Product data sheet or equivalent for each material must be submitted.

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 on the product's fulfilment of the requirements, a new declaration of fulfilment of the requirements is to be submitted to Nordic Ecolabelling.

Applicant’s or manufacturer’s signature:

Place and date:	Name of the manufacturer:
Responsible person:	Signature, responsible person:

Appendix 3 Forestry requirements

To be used in conjunction with an application for a license for the Nordic Ecolabelling for disposable products for food and beverages, generation 5, for requirements O8 and O9.

Name of wood/cellulose-based pulp/paper/board:	
Name of the manufacturer/supplier of the wood/cellulose-based pulp/paper/board	

O8 Prohibited and restricted tree species	**Yes**	**No**
Do tree species originate from legally managed forest in accordance with EU Deforestation Regulation**, EUDR? *** The requirement applies when EUDR comes into force.*		
Are tree species, listed on either a-d and prohibited* by Nordic Ecolabelling used? a) CITES (Appendices I, II and III) b) IUCN red list, categorized as CR, EN and VU c) Rainforest Foundation Norway's tree list? d) Siberian larch from forests outside the EU ** The list of restricted tree species is located on the website: Forestry requirements 2020 (nordic-swan-ecolabel.org)* Exemptions: Eucalyptus and Acacia used for pulp and paper production are exempted from the list. Nordic Ecolabelling may request further information if in doubt about specific tree species. Version and date of the list of restricted tree species:		
If yes to b), c) or d) that species from the lists are used:		
-Does the wood originate from an area/region where it is on the IUCN Red List, categorised as CR, EN or VU?		
-Do the tree species originate from Intact Forest Landscape (IFL), as defined in 2002 http://www.intactforests.org/world.map.html		
- Do the tree species originate from FSC or PEFC certified forest/plantation and are they covered by a valid FSC/PEFC chain of custody (CoC) certificate documented/controlled as FSC or PEFC 100% through the FSC transfer method or PEFC physical separation method? Please attach valid CoC-certificate or state certificate number covering the specific tree species:		
- Do tree species grown in plantation originate from plantations established on areas converted from forest after 1994?		
State the name of the tree species used:		

O9 Traceability and certification	**Yes**	**No**
State the name (species name) on the wood raw material and bamboo used in the product/pulp//paper/board:		
Is the manufacturer/supplier of the wood/pulp/paper/board Chain of Custody (CoC) certified according to FSC/PEFC schemes? Please attach valid CoC-certificate or state certificate number or link to certificate in FSC/PEFC certificate database covering all wood raw material and bamboo used in the wood/pulp/paper/board:		

Is acacia/eucalyptus used? If acacia/eucalyptus is used, attach documentation showing that the quantity of certified fibre is a minimum of 70% in the pulp. Name of attachment:		
Is the paper/board labelled with FSC / PEFC? If yes, no documentation is required, the requirement is considered to be met.		
If No, attach documentation showing that the quantity of certified wood raw material and bamboo is met, a minimum of 70 weight-%, and the remaining proportion is covered by FSC/PEFC's control schemes (FSC controlled wood/PEFC controlled sources)? This shall be specified in e.g. invoices or delivery notes from suppliers.		

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 on the product's fulfilment of the requirements, a new declaration of fulfilment of the requirements is to be submitted to Nordic Ecolabelling.

Producer of wood/pulp/paper/board's signature:

Place and date:	Name of the manufacturer:
Responsible person:	Signature, responsible person:

Appendix 4 Other Chemical products

Form for requirements O12, O13 and O14.

The chemical product's name:

Name of manufacturer of the chemical product:

The chemical product's area of use:

This declaration is based on the best available knowledge at the time of the application, including test results and/or declarations from raw material manufacturers. It is subject to change if new information or scientific findings become available. In such cases, an updated declaration must be submitted. If you do not have knowledge about the complete composition of the raw materials/ingredients in the chemical product, you are obliged to obtain this information from the raw material manufacturer.

O12 Classification of chemical products	**Yes**	**No**
Is the chemical product classified with any of the hazards listed in the Table A1 below?		

Table A1. Excluded hazards.

Classification under CLP Regulation (EC) No 1272/2008		
Hazard class	**Category**	**Hazard code**
Hazardous to the aquatic environment	Aquatic Acute 1 Aquatic Chronic 1-4	H400 H410, H411, H412, H413
Hazardous to the ozone layer	Ozone	H420
Acute toxicity	Acute Tox. 1, 2 Acute Tox. 3	H330, H310, H300 H331, H301, H311
Specific target organ toxicity	STOT SE 1 STOT SE 2 STOT RE 1 STOT RE 2	H370 H371 H372 H373
Allergenic	Resp. Sens. 1 or Skin Sens 1	H334 H317
Carcinogenic*	Carc. 1A/1B Carc. 2	H350 H351
Germ cell mutagenicity*	Muta. 1A/B Muta. 2	H340 H341
Reproductive toxicity*	Repr. 1A/1B Repr. 2	H360, H361 H362
Endocrine disruption for human health**	ED HH 1 ED HH 2	EUH380 EUH381
Endocrine disruption for environment**	ED ENV1 ED ENV2	EUH430 EUH431
Persistent, bioaccumulative and toxic properties** Very persistent, very bioaccumulative properties**	PBT vPvB	EUH440 EUH441
Persistent, Mobile and Toxic properties Very Persistent, Very Mobile properties	PMT vPvM	EUH450 EUH451

O13 Classification of ingoing substances	Yes	No
Does the product contain chemical substances that are or may degrade into substances that are classified with the hazards listed in the Table A2 below?		

The requirements apply to all ingoing substances in the chemical product, but not impurities unless stated otherwise in the requirements. Ingoing substances and impurities are defined below:

Ingoing substances: *all substances* in the chemical product, regardless of amount, including additives (e.g. preservatives and stabilisers) from the raw materials of the chemical product. Substances released from ingoing substances (e.g. biocidal active substances generated by preservatives, such as formaldehyde) are also regarded as ingoing substances.*

**N.B. the difference from the definition of substances in the REACH Regulation (EC) No 1907/2006. Whereas a REACH substance encompasses a chemical element or compound as well as its stabilising additives and process impurities, a substance here refers to each of the constituents separately. The constituents of a UVCB substance (Unknown or Variable composition, Complex reaction products or of Biological materials) are also regarded separately, and all known constituents must be regarded.*

Impurities: *Trace levels of pollutants, contaminants and residues from production, incl. production of raw materials that remain in the in the chemical product in concentrations less than 100 ppm (0,0100 w-%, 100 mg/kg). For formaldehyde other than as a biocidal active substance and for arylamine, the corresponding concentration is ≤ 10 ppm (≤ 0.001 w%).*

Examples of impurities*: Background environmental pollutants from feedstock, as well as contaminants and residues from production such as reactants (incl. monomers), reagents, catalysts, by-products, scavengers, detergents for production equipment, carry-over from other or previous production lines.*

Impurities in the raw materials in concentrations ≥ 1 000 ppm (≥ 0.1 w%) are always regarded as ingoing substances, regardless of the concentration in the chemical product.

Additional information concerning definitions of ingoing substances and impurities

Limit values*: The limit for excluded ingoing substances is 0 ppm (unless otherwise stated), while there's a specific defined limit for impurities. The impurity limit applies separately to each individual excluded substance, from each individual raw material. Concentrations of different impurities with the same excluded classification or substance group characteristics shall not be summed up to meet the impurity limit in the labelled product. Also, concentrations of an individual impurity, originating from different raw materials, shall not be summed.*

UVCB substances: UVCB substances (Unknown or Variable composition, Complex reaction products or of Biological materials) have a composition of constituents that is not completely known or is variable from time to time. For UVCBs substances, all constituents that are known must be considered individually and are subject to the chemical requirements, including for instance those on excluded substances and excluded classifications.

Table A2. Excluded hazards.

Classification under CLP Regulation (EC) No 1272/2008		
Hazard class	**Category**	**Hazard code**
Hazardous to the ozone layer	Ozone	H420
Specific target organ toxicity: Repeated exposure	STOT RE 1	H372
Respiratory sensitisation	Resp. Sens. 1, 1A or 1B	H334
Carcinogenic*	Carc. 1A/1B Carc. 2	H350 H351
Germ cell mutagenicity*	Muta. 1A/B Muta. 2	H340 H341
Reproductive toxicity*	Repr. 1A/1B Repr. 2	H360, H361 H362
Endocrine disruption for human health**	ED HH 1 ED HH 2	EUH380 EUH381
Endocrine disruption for the environment**	ED ENV 1 ED ENV 2	EUH430 EUH431

Persistent, Bioaccumulative and Toxic properties**	PBT	EUH440
Very Persistent, Very Bioaccumulative properties**	vPvB	EUH441
Persistent, Mobile and Toxic properties	PMT	EUH450
Very Persistent, Very Mobile properties	vPvM	EUH451

O14 Excluded substances	**Yes**	**No**
Does the chemical product contain any of the substances from the list below? Mark your answers with an X in the relevant column. If the answer to all the substances below is No, put an X in the column to the right.		
Substances on the REACH Candidate list of SVHC substances https://www.echa.europa.eu/candidate-list-table *Siloxanes in silicone polymer in coatings and impregnations have an own requirement, see O17. This does not remove the exclusion of SVHC under O14 for siloxanes in other chemical products.*		
PBT and vPvB as defined in REACH Annex XIII, including those under ECHA PBT assessment https://echa.europa.eu/da/pbt		
Potential or identified endocrine disruptors, listed in any of the following "Endocrine Disruptor Lists" List I; II and III. *Note: Substances moved to "Substances no longer on list" and not present on Lists I-III, are no longer excluded, except for those on sublist II where concern remains. Nordic Ecolabelling will assess these on a case-by-case basis.*		
Quaternary ammonium compounds, which are not readily aerobic biodegradable* such as DTDMAC (CAS No. 61789-80-8), DSDMAC (CAS No. 107-64-2), DHTDMAC (CAS No. 61789-72-8) and DADMAC (CAS No. 7398-69-8). *According to OECD test method 301 (A-F) or 310 or equivalent methods evaluated by an independent body and controlled by Nordic Ecolabelling.		
Alkylphenols (AP) (e.g. butylated hydroxy anisole (BHA, CAS No. 25013-16-5), butylated hydroxytoluene (BHT, CAS No. 128-37-0), alkylphenol ethoxylates (APEOs) and other alkylphenol derivates (APD)		
Aziridine (CAS No. 151-56-4) and polyaziridines		
Bisphenols and bisphenol derivatives, defined as 34 bisphenols identified by ECHA for further EU regulatory risk management due to known or potential endocrine disruption or reproductive toxicity		
Ethylenediamine tetraacetate (EDTA, CAS No. 60-00-4) and its salts and Diethylenetriamine pentaacetate (DTPA, CAS No. 67-43-6) and its salts		
Per- and polyfluoroalkyl substances (PFAS)** **PFAS: as any substance that contains at least one fully fluorinated methyl (CF3-) or methylene (-CF2-) carbon atom (without any H/Cl/Br/I attached to it).		
Halogenated organic compounds. *An exemption is made for: halogenated organic pigments that meet the European Council's "Resolution AP (89) 1 on the use of colourants in plastic materials coming into contact with food", point 2.5. (Perflourinated and polyflourinated alkyl substances are covered by their own bulletin and are not included in this exemption.)*		
Antimicrobial or disinfecting substances added for other purposes than preservation of the product*** ***An antimicrobial or disinfecting substance is a chemical/product that inhibits or stops growth of microorganisms such as bacteria, fungi or protozoa (single-celled organisms). The requirement does not apply to preservatives used to preserve the chemical product, so-called in-can preservatives.		

Nanomaterials/-particles**** *The following substances are exempted from the requirement:* *Pigments used only to impart colour and not for other purposes* *Polymer dispersions* **** Nanomaterials/-particles are defined according to the EU Commission Recommendation on the Definition of Nanomaterial (2022/C 229/01): 'Nanomaterial' means a natural, incidental or manufactured material consisting of solid particles that are present, either on their own or as identifiable constituent particles in aggregates or agglomerates, and where 50 % or more of these particles in the number-based size distribution fulfil at least one of the following conditions: (a) one or more external dimensions of the particle are in the size range 1 nm to 100 nm; (b) the particle has an elongated shape, such as a rod, fibre or tube, where two external dimensions are smaller than 1 nm and the other dimension is larger than 100 nm; (c) the particle has a plate-like shape, where one external dimension is smaller than 1 nm and the other dimensions are larger than 100 nm.		
Phthalates (Esters of 1,2-benzenedicarboxylic acid (orthophthalic acid, CAS No. 88-99-3))		
Organotin compounds		
Volatile aromatic compounds (VAC)***** *****VAC: Volatile organic compounds containing one or more benzene rings.		

If Yes to any question O12-O14 above, please provide the following information for each relevant substance: CAS No. (where possible), chemical name, concentration (in ppm, % by weight or mg/kg). Also state whether the substance is present as an ingoing substance or impurity.

Please attach safety data sheet for the chemical product.

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 on the product's fulfilment of the requirements, a new declaration of fulfilment of the requirements is to be submitted to Nordic Ecolabelling.

Chemical manufacturers' signature:

Place and date:	Name of the Chemicals manufacturer:
Responsible person:	Signature, responsible person:

Appendix 5 Adhesive

Form for requirements O12, O13, O14 and O16.

The name of the adhesive:

Name of manufacturer of the chemical product:

The chemical product's area of use:

This declaration is based on the best available knowledge at the time of the application, including test results and/or declarations from raw material manufacturers. It is subject to change if new information or scientific findings become available. In such cases, an updated declaration must be submitted. If you do not have knowledge about the complete composition of the raw materials/ingredients in the chemical product, you are obliged to obtain this information from the raw material manufacturer.

O12 Classification of chemical products	**Yes**	**No**
Is the chemical product classified with any of the hazards listed in the Table A1 below?		

Table A1. Excluded hazards.

Classification under CLP Regulation (EC) No 1272/2008		
Hazard class	**Category**	**Hazard code**
Hazardous to the aquatic environment	Aquatic Acute 1 Aquatic Chronic 1-4	H400 H410, H411, H412, H413
Hazardous to the ozone layer	Ozone	H420
Acute toxicity	Acute Tox. 1, 2 Acute Tox. 3	H330, H310, H300 H331, H301, H311
Specific target organ toxicity	STOT SE 1 STOT SE 2 STOT RE 1 STOT RE 2	H370 H371 H372 H373
Allergenic	Resp. Sens. 1 or Skin Sens 1	H334 H317
Carcinogenic*	Carc. 1A/1B Carc. 2	H350 H351
Germ cell mutagenicity*	Muta. 1A/B Muta. 2	H340 H341
Reproductive toxicity*	Repr. 1A/1B Repr. 2	H360, H361 H362
Endocrine disruption for human health**	ED HH 1 ED HH 2	EUH380 EUH381
Endocrine disruption for environment**	ED ENV1 ED ENV2	EUH430 EUH431
Persistent, bioaccumulative and toxic properties** Very persistent, very bioaccumulative properties**	PBT vPvB	EUH440 EUH441
Persistent, Mobile and Toxic properties Very Persistent, Very Mobile properties	PMT vPvM	EUH450 EUH451

O13 Classification of ingoing substances	Yes	No
Does the product contain chemical substances that are or may degrade into substances that are classified with the hazards listed in the Table A2 below?		

The requirements apply to all ingoing substances in the chemical product, but not impurities unless stated otherwise in the requirements. Ingoing substances and impurities are defined below:

Ingoing substances: *all substances* in the chemical product, regardless of amount, including additives (e.g. preservatives and stabilisers) from the raw materials of the chemical product. Substances released from ingoing substances (e.g. biocidal active substances generated by preservatives, such as formaldehyde) are also regarded as ingoing substances.*

**N.B. the difference from the definition of substances in the REACH Regulation (EC) No 1907/2006. Whereas a REACH substance encompasses a chemical element or compound as well as its stabilising additives and process impurities, a substance here refers to each of the constituents separately. The constituents of a UVCB substance (Unknown or Variable composition, Complex reaction products or of Biological materials) are also regarded separately, and all known constituents must be regarded.*

Impurities: *Trace levels of pollutants, contaminants and residues from production, incl. production of raw materials that remain in the in the chemical product in concentrations less than 100 ppm (0,0100 w-%, 100 mg/kg). For formaldehyde other than as a biocidal active substance and for arylamine, the corresponding concentration is ≤ 10 ppm (≤ 0.001 w%).*

Examples of impurities*: Background environmental pollutants from feedstock, as well as contaminants and residues from production such as reactants (incl. monomers), reagents, catalysts, by-products, scavengers, detergents for production equipment, carry-over from other or previous production lines.*

Impurities in the raw materials in concentrations ≥ 1 000 ppm (≥ 0.1 w%) are always regarded as ingoing substances, regardless of the concentration in the chemical product.

Additional information concerning definitions of ingoing substances and impurities

Limit values*: The limit for excluded ingoing substances is 0 ppm (unless otherwise stated), while there's a specific defined limit for impurities. The impurity limit applies separately to each individual excluded substance, from each individual raw material. Concentrations of different impurities with the same excluded classification or substance group characteristics shall not be summed up to meet the impurity limit in the labelled product. Also, concentrations of an individual impurity, originating from different raw materials, shall not be summed.*

UVCB substances: UVCB substances (Unknown or Variable composition, Complex reaction products or of Biological materials) have a composition of constituents that is not completely known or is variable from time to time. For UVCBs substances, all constituents that are known must be considered individually and are subject to the chemical requirements, including for instance those on excluded substances and excluded classifications.

Table A2. Excluded hazards.

Classification under CLP Regulation (EC) No 1272/2008		
Hazard class	**Category**	**Hazard code**
Hazardous to the ozone layer	Ozone	H420
Specific target organ toxicity: Repeated exposure	STOT RE 1	H372
Respiratory sensitisation	Resp. Sens. 1, 1A or 1B	H334
Carcinogenic*	Carc. 1A/1B Carc. 2	H350 H351
Germ cell mutagenicity*	Muta. 1A/B Muta. 2	H340 H341
Reproductive toxicity*	Repr. 1A/1B Repr. 2	H360, H361 H362
Endocrine disruption for human health**	ED HH 1 ED HH 2	EUH380 EUH381
Endocrine disruption for the environment**	ED ENV 1 ED ENV 2	EUH430 EUH431

Persistent, Bioaccumulative and Toxic properties**	PBT	EUH440
Very Persistent, Very Bioaccumulative properties**	vPvB	EUH441
Persistent, Mobile and Toxic properties	PMT	EUH450
Very Persistent, Very Mobile properties	vPvM	EUH451

O14 Excluded substances	**Yes**	**No**
Does the chemical product contain any of the substances from the list below? Mark your answers with an X in the relevant column. If the answer to all the substances below is No, put an X in the column to the right.		
Substances on the REACH Candidate list of SVHC substances https://www.echa.europa.eu/candidate-list-table *Siloxanes in silicone polymer in coatings and impregnations have an own requirement, see O17. This does not remove the exclusion of SVHC under O14 for siloxanes in other chemical products..*		
PBT and vPvB as defined in REACH Annex XIII, including those under ECHA PBT assessment https://echa.europa.eu/da/pbt		
Potential or identified endocrine disruptors, listed in any of the following "Endocrine Disruptor Lists" List I; II and III. *Note: Substances moved to "Substances no longer on list" and not present on Lists I-III, are no longer excluded, except for those on sublist II where concern remains. Nordic Ecolabelling will assess these on a case-by-case basis.*		
Quaternary ammonium compounds, which are not readily aerobic biodegradable* such as DTDMAC (CAS No. 61789-80-8), DSDMAC (CAS No. 107-64-2), DHTDMAC (CAS No. 61789-72-8) and DADMAC (CAS No. 7398-69-8). *According to OECD test method 301 (A-F) or 310 or equivalent methods evaluated by an independent body and controlled by Nordic Ecolabelling.		
Alkylphenols (AP) (e.g. butylated hydroxy anisole (BHA, CAS No. 25013-16-5), butylated hydroxytoluene (BHT, CAS No. 128-37-0), alkylphenol ethoxylates (APEOs) and other alkylphenol derivates (APD)		
Aziridine (CAS No. 151-56-4) and polyaziridines		
Bisphenols and bisphenol derivatives, defined as 34 bisphenols identified by ECHA for further EU regulatory risk management due to known or potential endocrine disruption or reproductive toxicity		
Ethylenediamine tetraacetate (EDTA, CAS No. 60-00-4) and its salts and Diethylenetriamine pentaacetate (DTPA, CAS No. 67-43-6) and its salts		
Per- and polyfluoroalkyl substances (PFAS)** **PFAS: as any substance that contains at least one fully fluorinated methyl (CF3-) or methylene (-CF2-) carbon atom (without any H/Cl/Br/I attached to it).		
Halogenated organic compounds. *An exemption is made for: halogenated organic pigments that meet the European Council's "Resolution AP (89) 1 on the use of colourants in plastic materials coming into contact with food", point 2.5. (Perflourinated and polyflourinated alkyl substances are covered by their own bulletin and are not included in this exemption.)*		
Antimicrobial or disinfecting substances added for other purposes than preservation of the product*** ***An antimicrobial or disinfecting substance is a chemical/product that inhibits or stops growth of microorganisms such as bacteria, fungi or protozoa (single-celled organisms). The requirement does not apply to preservatives used to preserve the chemical product, so-called in-can preservatives.		

Nanomaterials/-particles**** *The following substances are exempted from the requirement:* *Pigments used only to impart colour and not for other purposes* *Polymer dispersions* **** Nanomaterials/-particles are defined according to the EU Commission Recommendation on the Definition of Nanomaterial (2022/C 229/01): 'Nanomaterial' means a natural, incidental or manufactured material consisting of solid particles that are present, either on their own or as identifiable constituent particles in aggregates or agglomerates, and where 50 % or more of these particles in the number-based size distribution fulfil at least one of the following conditions: (a) one or more external dimensions of the particle are in the size range 1 nm to 100 nm; (b) the particle has an elongated shape, such as a rod, fibre or tube, where two external dimensions are smaller than 1 nm and the other dimension is larger than 100 nm; (c) the particle has a plate-like shape, where one external dimension is smaller than 1 nm and the other dimensions are larger than 100 nm.		
Phthalates (Esters of 1,2-benzenedicarboxylic acid (orthophthalic acid, CAS No. 88-99-3))		
Organotin compounds		
Volatile aromatic compounds (VAC)***** *****VAC: Volatile organic compounds containing one or more benzene rings.		

If Yes to any question O12-O14 above, please provide the following information for each relevant substance: CAS No. (where possible), chemical name, concentration (in ppm, % by weight or mg/kg). Also state whether the substance is present as an ingoing substance or impurity.

O16 Adhesives	**Yes**	**No**
Does the adhesive contain ethylene glycol ethers?		
Does the adhesive contain rosin? Modified rosin derivative which is not classified as allergenic is exempted.		
Is the adhesive an hotmelt adhesive? If the answer is No the following apply:		
Is the level of formaldehyde generated during the production process no more than 250 ppm (0.025% by weight), measured in newly produced polymer dispersion*? * Measured using the VdL-RL 03 method “In-can concentration of formaldehyde determined by the acetyl-acetone method” or the Merckoquant method (see Appendix X of RAL-UZ 102), or some other equivalent method.		
Is the content of free formaldehyde in hardened adhesive no more than 10 ppm (0.010% by weight)?** ** Measured using the Merckoquant method (see Appendix X of RAL-UZ 102), or some other equivalent method.		

Please attach a test report for the formaldehyde and safety data sheet for the adhesive.

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 on the product's fulfilment of the requirements, a new declaration of fulfilment of the requirements is to be submitted to Nordic Ecolabelling.

Adhesive manufacturers' signature:

Place and date:	Name of the Adhesive manufacturer:
Responsible person:	Signature, responsible person:

Appendix 6 Printing inks

Form for requirements O12, O13, O14 and O18.

The name of the printing ink:

Name of manufacturer of the printing ink:

The chemical product's area of use:

This declaration is based on the best available knowledge at the time of the application, including test results and/or declarations from raw material manufacturers. It is subject to change if new information or scientific findings become available. In such cases, an updated declaration must be submitted. If you do not have knowledge about the complete composition of the raw materials/ingredients in the chemical product, you are obliged to obtain this information from the raw material manufacturer.

O12 Classification of chemical products	**Yes**	**No**
Is the printing ink classified with any of the hazards listed in the Table A1 below?		

Table A1. Excluded hazards.

Classification under CLP Regulation (EC) No 1272/2008		
Hazard class	**Category**	**Hazard code**
Hazardous to the aquatic environment	Aquatic Acute 1 Aquatic Chronic 1-4	H400 H410, H411, H412, H413
Hazardous to the ozone layer	Ozone	H420
Acute toxicity	Acute Tox. 1, 2 Acute Tox. 3	H330, H310, H300 H331, H301, H311
Specific target organ toxicity	STOT SE 1 STOT SE 2 STOT RE 1 STOT RE 2	H370 H371 H372 H373
Allergenic	Resp. Sens. 1 or Skin Sens 1	H334 H317
Carcinogenic*	Carc. 1A/1B Carc. 2	H350 H351
Germ cell mutagenicity*	Muta. 1A/B Muta. 2	H340 H341
Reproductive toxicity*	Repr. 1A/1B Repr. 2	H360, H361 H362
Endocrine disruption for human health**	ED HH 1 ED HH 2	EUH380 EUH381
Endocrine disruption for environment**	ED ENV1 ED ENV2	EUH430 EUH431
Persistent, bioaccumulative and toxic properties** Very persistent, very bioaccumulative properties**	PBT vPvB	EUH440 EUH441
Persistent, Mobile and Toxic properties Very Persistent, Very Mobile properties	PMT vPvM	EUH450 EUH451

O13 Classification of ingoing substances	Yes	No
Does the printing ink contain chemical substances that are or may degrade into substances that are classified with the hazards listed in the Table A2 below?		

The requirements apply to all ingoing substances in the chemical product, but not impurities unless stated otherwise in the requirements. Ingoing substances and impurities are defined below:

Ingoing substances: *all substances* in the chemical product, regardless of amount, including additives (e.g. preservatives and stabilisers) from the raw materials of the chemical product. Substances released from ingoing substances (e.g. biocidal active substances generated by preservatives, such as formaldehyde) are also regarded as ingoing substances.*

**N.B. the difference from the definition of substances in the REACH Regulation (EC) No 1907/2006. Whereas a REACH substance encompasses a chemical element or compound as well as its stabilising additives and process impurities, a substance here refers to each of the constituents separately. The constituents of a UVCB substance (Unknown or Variable composition, Complex reaction products or of Biological materials) are also regarded separately, and all known constituents must be regarded.*

Impurities: *Trace levels of pollutants, contaminants and residues from production, incl. production of raw materials that remain in the in the chemical product in concentrations less than 100 ppm (0,0100 w-%, 100 mg/kg). For formaldehyde other than as a biocidal active substance and for arylamine, the corresponding concentration is ≤ 10 ppm (≤ 0.001 w%).*

Examples of impurities*: Background environmental pollutants from feedstock, as well as contaminants and residues from production such as reactants (incl. monomers), reagents, catalysts, by-products, scavengers, detergents for production equipment, carry-over from other or previous production lines.*

Impurities in the raw materials in concentrations ≥ 1 000 ppm (≥ 0.1 w%) are always regarded as ingoing substances, regardless of the concentration in the chemical product.

Additional information concerning definitions of ingoing substances and impurities

Limit values*: The limit for excluded ingoing substances is 0 ppm (unless otherwise stated), while there's a specific defined limit for impurities. The impurity limit applies separately to each individual excluded substance, from each individual raw material. Concentrations of different impurities with the same excluded classification or substance group characteristics shall not be summed up to meet the impurity limit in the labelled product. Also, concentrations of an individual impurity, originating from different raw materials, shall not be summed.*

UVCB substances: UVCB substances (Unknown or Variable composition, Complex reaction products or of Biological materials) have a composition of constituents that is not completely known or is variable from time to time. For UVCBs substances, all constituents that are known must be considered individually and are subject to the chemical requirements, including for instance those on excluded substances and excluded classifications.

Table A2. Excluded hazards.

Classification under CLP Regulation (EC) No 1272/2008		
Hazard class	**Category**	**Hazard code**
Hazardous to the ozone layer	Ozone	H420
Specific target organ toxicity: Repeated exposure	STOT RE 1	H372
Respiratory sensitisation	Resp. Sens. 1, 1A or 1B	H334
Carcinogenic*	Carc. 1A/1B Carc. 2	H350 H351
Germ cell mutagenicity*	Muta. 1A/B Muta. 2	H340 H341
Reproductive toxicity*	Repr. 1A/1B Repr. 2	H360, H361 H362
Endocrine disruption for human health**	ED HH 1 ED HH 2	EUH380 EUH381
Endocrine disruption for the environment**	ED ENV 1 ED ENV 2	EUH430 EUH431

Persistent, Bioaccumulative and Toxic properties**	PBT	EUH440
Very Persistent, Very Bioaccumulative properties**	vPvB	EUH441
Persistent, Mobile and Toxic properties	PMT	EUH450
Very Persistent, Very Mobile properties	vPvM	EUH451

O14 Excluded substances	**Yes**	**No**
Does the printing ink contain any of the substances from the list below? Mark your answers with an X in the relevant column. If the answer to all the substances below is No, put an X in the column to the right.		
Substances on the REACH Candidate list of SVHC substances https://www.echa.europa.eu/candidate-list-table *Siloxanes in silicone polymer in coatings and impregnations have an own requirement, see O17. This does not remove the exclusion of SVHC under O14 for siloxanes in other chemical products..*		
PBT and vPvB as defined in REACH Annex XIII, including those under ECHA PBT assessment https://echa.europa.eu/da/pbt		
Potential or identified endocrine disruptors, listed in any of the following "Endocrine Disruptor Lists" List I; II and III. *Note: Substances moved to "Substances no longer on list" and not present on Lists I-III, are no longer excluded, except for those on sublist II where concern remains. Nordic Ecolabelling will assess these on a case-by-case basis.*		
Quaternary ammonium compounds, which are not readily aerobic biodegradable* such as DTDMAC (CAS No. 61789-80-8), DSDMAC (CAS No. 107-64-2), DHTDMAC (CAS No. 61789-72-8) and DADMAC (CAS No. 7398-69-8). *According to OECD test method 301 (A-F) or 310 or equivalent methods evaluated by an independent body and controlled by Nordic Ecolabelling.		
Alkylphenols (AP) (e.g. butylated hydroxy anisole (BHA, CAS No. 25013-16-5), butylated hydroxytoluene (BHT, CAS No. 128-37-0), alkylphenol ethoxylates (APEOs) and other alkylphenol derivates (APD)		
Aziridine (CAS No. 151-56-4) and polyaziridines		
Bisphenols and bisphenol derivatives, defined as 34 bisphenols identified by ECHA for further EU regulatory risk management due to known or potential endocrine disruption or reproductive toxicity		
Ethylenediamine tetraacetate (EDTA, CAS No. 60-00-4) and its salts and Diethylenetriamine pentaacetate (DTPA, CAS No. 67-43-6) and its salts		
Per- and polyfluoroalkyl substances (PFAS)** **PFAS: as any substance that contains at least one fully fluorinated methyl (CF3-) or methylene (-CF2-) carbon atom (without any H/Cl/Br/I attached to it).		
Halogenated organic compounds. *An exemption is made for: halogenated organic pigments that meet the European Council's "Resolution AP (89) 1 on the use of colourants in plastic materials coming into contact with food", point 2.5. (Perflourinated and polyflourinated alkyl substances are covered by their own bulletin and are not included in this exemption.)*		
Antimicrobial or disinfecting substances added for other purposes than preservation of the product*** ***An antimicrobial or disinfecting substance is a chemical/product that inhibits or stops growth of microorganisms such as bacteria, fungi or protozoa (single-celled organisms). The requirement does not apply to preservatives used to preserve the chemical product, so-called in-can preservatives.		

Nanomaterials/-particles**** *The following substances are exempted from the requirement:* *Pigments used only to impart colour and not for other purposes* *Polymer dispersions* **** Nanomaterials/-particles are defined according to the EU Commission Recommendation on the Definition of Nanomaterial (2022/C 229/01): 'Nanomaterial' means a natural, incidental or manufactured material consisting of solid particles that are present, either on their own or as identifiable constituent particles in aggregates or agglomerates, and where 50 % or more of these particles in the number-based size distribution fulfil at least one of the following conditions: (a) one or more external dimensions of the particle are in the size range 1 nm to 100 nm; (b) the particle has an elongated shape, such as a rod, fibre or tube, where two external dimensions are smaller than 1 nm and the other dimension is larger than 100 nm; (c) the particle has a plate-like shape, where one external dimension is smaller than 1 nm and the other dimensions are larger than 100 nm.		
Phthalates (Esters of 1,2-benzenedicarboxylic acid (orthophthalic acid, CAS No. 88-99-3))		
Organotin compounds		
Volatile aromatic compounds (VAC)***** *****VAC: Volatile organic compounds containing one or more benzene rings.		

If Yes to any question O12-O14 above, please provide the following information for each relevant substance: CAS No. (where possible), chemical name, concentration (in ppm, % by weight or mg/kg). Also state whether the substance is present as an ingoing substance or impurity.

O18 Colourants for printing	**Yes**	**No**
Does the printing ink and the colourant (pigment/dyes) contain substances that may release one or more of the aromatic amines listed in Regulation (EC) No 1907/2006 Annex XVII, Appendix 8? (E.g. Azo dyes, which by reductive cleavage of one or more azo groups).		
Are mineral oil-based raw materials used?		
Is the colourant (pigment/dye) based on* the following metals: aluminium, silver, arsenic, barium, cadmium, cobalt, chromium, copper, mercury, manganese, nickel, lead, selenium, antimony, tin or zinc? *Exemptions: Copper in phthalocyanine pigment/dyes and aluminium in aluminosilicates are allowed.* *"Based on" refers to cases where the metal is covalently bound to the other constituents/elements of the pigment/dye and is not regarded as an impurity.		
Are the metals/metalloids and their compounds listed in Table A3 present above the specified limit values in the colourant (pigment/dye)? Traces of the following metals from residuals may be accepted up to the limits stated in Table A3, per single metal in each colourant, measured as the soluble (extractable) fraction, The soluble fraction must be determined according to HCl extraction (e.g. DIN 53770-1) or an equivalent method.		

Table A3. Limit values for metals.

Metals	**Limit value (mg/kg;ppm)**
Lead (Pb)	50
Cadmium (Cd)	10
Mercury (Hg)	1.0
Chromium (Cr VI)	25
Arsenic (As)	10
Antimony (Sb)	50

Cobalt (Co)	500
Nickel (Ni)	100
Copper (Cu)	40
Selenium (Se)	20
Barium (Ba)	100
Silver (Ag)	100
Tin (Sn)	250
Zinc (Zn)	1500
Iron (Fe)	2500
Manganese (Mn)	1000

O18 Colourants for printing	**Yes**	**No**
Does the printing ink commit to the EuPIA "Guideline in Printing Inks applied to Food Contact Materials" May 2023 or later which includes the following:		
EuPIA Exclusion Policy https://www.eupia.org/wp-content/uploads/2025/04/Ed8_EP_final.pdf		
The EuPIA "Good Manufacturing Practices" GMP https://www.eupia.org/wp-content/uploads/2022/09/160331_EuPIA_GMP_4th_version_final.pdf		
Statement of Composition (SoC) https://www.eupia.org/wp-content/uploads/2022/09/2021-09-03_EuPIA_Customer_Guidance_Note_for_Using_Statements_of_Composition.pdf		
EuPIA Suitable list of Photo-Initiators https://www.eupia.org/wp-content/uploads/2024/04/EuPIA-Suitability-List-2024_final.pdf		
EuPIA Guidance for RA of NIAS/NLS https://www.eupia.org/wp-content/uploads/2022/09/2021-05-11-EuPIA_NIAS_Guidance.pdf		
EuPIA members Self Commitment https://www.eupia.org/our-commitment/commitments-related-to-the-manufacture-and-supply-of-food-packaging-inks/		
Does the printing ink fulfil the Swiss Ordinance 817.023.21 Annex 10?		
Relevant for printing on plastic products: Does the printing ink comply with BfR IX. Colorants for Plastics and other Polymers Used in Commodities?		

Please attach a solubility test report for the metals and safety data sheet for the printing ink.

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 on the product's fulfilment of the requirements, a new declaration of fulfilment of the requirements is to be submitted to Nordic Ecolabelling.

Printing ink manufacturers' signature:

Place and date:	Name of the Printing ink manufacturer:
Responsible person:	Signature, responsible person:

Appendix 7 Silicone coating

Form for requirements O12, O13, O14 and O17.

The name of the silicone product:

Name of manufacturer of the silicone product:

The chemical product's area of use:

This declaration is based on the best available knowledge at the time of the application, including test results and/or declarations from raw material manufacturers. It is subject to change if new information or scientific findings become available. In such cases, an updated declaration must be submitted. If you do not have knowledge about the complete composition of the raw materials/ingredients in the chemical product, you are obliged to obtain this information from the raw material manufacturer.

O12 Classification of chemical products	**Yes**	**No**
Is the chemical product classified with any of the hazards listed in the Table A1 below?		

Table A1. Excluded hazards.

Classification under CLP Regulation (EC) No 1272/2008		
Hazard class	**Category**	**Hazard code**
Hazardous to the aquatic environment	Aquatic Acute 1 Aquatic Chronic 1-4	H400 H410, H411, H412, H413
Hazardous to the ozone layer	Ozone	H420
Acute toxicity	Acute Tox. 1, 2 Acute Tox. 3	H330, H310, H300 H331, H301, H311
Specific target organ toxicity	STOT SE 1 STOT SE 2 STOT RE 1 STOT RE 2	H370 H371 H372 H373
Allergenic	Resp. Sens. 1 or Skin Sens 1	H334 H317
Carcinogenic*	Carc. 1A/1B Carc. 2	H350 H351
Germ cell mutagenicity*	Muta. 1A/B Muta. 2	H340 H341
Reproductive toxicity*	Repr. 1A/1B Repr. 2	H360, H361 H362
Endocrine disruption for human health**	ED HH 1 ED HH 2	EUH380 EUH381
Endocrine disruption for environment**	ED ENV1 ED ENV2	EUH430 EUH431
Persistent, bioaccumulative and toxic properties** Very persistent, very bioaccumulative properties**	PBT vPvB	EUH440 EUH441
Persistent, Mobile and Toxic properties Very Persistent, Very Mobile properties	PMT vPvM	EUH450 EUH451

O13 Classification of ingoing substances	Yes	No
Does the product contain chemical substances that are or may degrade into substances that are classified with the hazards listed in the Table A2 below?		

The requirements apply to all ingoing substances in the chemical product, but not impurities unless stated otherwise in the requirements. Ingoing substances and impurities are defined below:

Ingoing substances: *all substances* in the chemical product, regardless of amount, including additives (e.g. preservatives and stabilisers) from the raw materials of the chemical product. Substances released from ingoing substances (e.g. biocidal active substances generated by preservatives, such as formaldehyde) are also regarded as ingoing substances.*

**N.B. the difference from the definition of substances in the REACH Regulation (EC) No 1907/2006. Whereas a REACH substance encompasses a chemical element or compound as well as its stabilising additives and process impurities, a substance here refers to each of the constituents separately. The constituents of a UVCB substance (Unknown or Variable composition, Complex reaction products or of Biological materials) are also regarded separately, and all known constituents must be regarded.*

Impurities: *Trace levels of pollutants, contaminants and residues from production, incl. production of raw materials that remain in the in the chemical product in concentrations less than 100 ppm (0,0100 w-%, 100 mg/kg). For formaldehyde other than as a biocidal active substance and for arylamine, the corresponding concentration is ≤ 10 ppm (≤ 0.001 w%).*

Examples of impurities*: Background environmental pollutants from feedstock, as well as contaminants and residues from production such as reactants (incl. monomers), reagents, catalysts, by-products, scavengers, detergents for production equipment, carry-over from other or previous production lines.*

Impurities in the raw materials in concentrations ≥ 1 000 ppm (≥ 0.1 w%) are always regarded as ingoing substances, regardless of the concentration in the chemical product.

Additional information concerning definitions of ingoing substances and impurities

Limit values*: The limit for excluded ingoing substances is 0 ppm (unless otherwise stated), while there's a specific defined limit for impurities. The impurity limit applies separately to each individual excluded substance, from each individual raw material. Concentrations of different impurities with the same excluded classification or substance group characteristics shall not be summed up to meet the impurity limit in the labelled product. Also, concentrations of an individual impurity, originating from different raw materials, shall not be summed.*

UVCB substances: UVCB substances (Unknown or Variable composition, Complex reaction products or of Biological materials) have a composition of constituents that is not completely known or is variable from time to time. For UVCBs substances, all constituents that are known must be considered individually and are subject to the chemical requirements, including for instance those on excluded substances and excluded classifications.

Table A2. Excluded hazards.

Classification under CLP Regulation (EC) No 1272/2008		
Hazard class	**Category**	**Hazard code**
Hazardous to the ozone layer	Ozone	H420
Specific target organ toxicity: Repeated exposure	STOT RE 1	H372
Respiratory sensitisation	Resp. Sens. 1, 1A or 1B	H334
Carcinogenic*	Carc. 1A/1B Carc. 2	H350 H351
Germ cell mutagenicity*	Muta. 1A/B Muta. 2	H340 H341
Reproductive toxicity*	Repr. 1A/1B Repr. 2	H360, H361 H362
Endocrine disruption for human health**	ED HH 1 ED HH 2	EUH380 EUH381
Endocrine disruption for the environment**	ED ENV 1 ED ENV 2	EUH430 EUH431

Persistent, Bioaccumulative and Toxic properties**	PBT	EUH440
Very Persistent, Very Bioaccumulative properties**	vPvB	EUH441
Persistent, Mobile and Toxic properties	PMT	EUH450
Very Persistent, Very Mobile properties	vPvM	EUH451

O14 Excluded substances	**Yes**	**No**
Does the chemical product contain any of the substances from the list below? Mark your answers with an X in the relevant column. If the answer to all the substances below is No, put an X in the column to the right.		
Substances on the REACH Candidate list of SVHC substances https://www.echa.europa.eu/candidate-list-table *Siloxanes in silicone polymer in coatings and impregnations have an own requirement, see O17. This does not remove the exclusion of SVHC under O14 for siloxanes in other chemical products.*		
PBT and vPvB as defined in REACH Annex XIII, including those under ECHA PBT assessment https://echa.europa.eu/da/pbt		
Potential or identified endocrine disruptors, listed in any of the following "Endocrine Disruptor Lists" List I; II and III. *Note: Substances moved to "Substances no longer on list" and not present on Lists I-III, are no longer excluded, except for those on sublist II where concern remains. Nordic Ecolabelling will assess these on a case-by-case basis.*		
Quaternary ammonium compounds, which are not readily aerobic biodegradable* such as DTDMAC (CAS No. 61789-80-8), DSDMAC (CAS No. 107-64-2), DHTDMAC (CAS No. 61789-72-8) and DADMAC (CAS No. 7398-69-8). *According to OECD test method 301 (A-F) or 310 or equivalent methods evaluated by an independent body and controlled by Nordic Ecolabelling.		
Alkylphenols (AP) (e.g. butylated hydroxy anisole (BHA, CAS No. 25013-16-5), butylated hydroxytoluene (BHT, CAS No. 128-37-0), alkylphenol ethoxylates (APEOs) and other alkylphenol derivates (APD)		
Aziridine (CAS No. 151-56-4) and polyaziridines		
Bisphenols and bisphenol derivatives, defined as 34 bisphenols identified by ECHA for further EU regulatory risk management due to known or potential endocrine disruption or reproductive toxicity		
Ethylenediamine tetraacetate (EDTA, CAS No. 60-00-4) and its salts and Diethylenetriamine pentaacetate (DTPA, CAS No. 67-43-6) and its salts		
Per- and polyfluoroalkyl substances (PFAS)** **PFAS: as any substance that contains at least one fully fluorinated methyl (CF3-) or methylene (-CF2-) carbon atom (without any H/Cl/Br/I attached to it).		
Halogenated organic compounds. *An exemption is made for: halogenated organic pigments that meet the European Council's "Resolution AP (89) 1 on the use of colourants in plastic materials coming into contact with food", point 2.5. (Perflourinated and polyflourinated alkyl substances are covered by their own bulletin and are not included in this exemption.)*		
Antimicrobial or disinfecting substances added for other purposes than preservation of the product*** ***An antimicrobial or disinfecting substance is a chemical/product that inhibits or stops growth of microorganisms such as bacteria, fungi or protozoa (single-celled organisms). The requirement does not apply to preservatives used to preserve the chemical product, so-called in-can preservatives.		

Nanomaterials/-particles**** *The following substances are exempted from the requirement:* *Pigments used only to impart colour and not for other purposes* *Polymer dispersions* **** Nanomaterials/-particles are defined according to the EU Commission Recommendation on the Definition of Nanomaterial (2022/C 229/01): 'Nanomaterial' means a natural, incidental or manufactured material consisting of solid particles that are present, either on their own or as identifiable constituent particles in aggregates or agglomerates, and where 50 % or more of these particles in the number-based size distribution fulfil at least one of the following conditions: (a) one or more external dimensions of the particle are in the size range 1 nm to 100 nm; (b) the particle has an elongated shape, such as a rod, fibre or tube, where two external dimensions are smaller than 1 nm and the other dimension is larger than 100 nm; (c) the particle has a plate-like shape, where one external dimension is smaller than 1 nm and the other dimensions are larger than 100 nm.		
Phthalates (Esters of 1,2-benzenedicarboxylic acid (orthophthalic acid, CAS No. 88-99-3))		
Organotin compounds		
Volatile aromatic compounds (VAC)***** *****VAC: Volatile organic compounds containing one or more benzene rings.		

If Yes to any question O12-O14 above, please provide the following information for each relevant substance: CAS No. (where possible), chemical name, concentration (in ppm, % by weight or mg/kg). Also state whether the substance is present as an ingoing substance or impurity.

O17 Coatings and impregnations	**Yes**	**No**
Is the product solvent-based?		
Are organotin compound used?		
Are Octamethylcyclotetrasiloxane, D4 (CAS 556-67-2), decamethylcyclopentasiloxane, D5 (CAS 541-02-6) and dodecamethyl cyclohexasiloxane, D6, (CAS 540-97-6) present in the chemical products used for silicone treatment? The requirement does not apply to D4, D5 and D6 contained as impurities in the ingoing silicone products (e.g. liquid silicones, silicone emulsions) to a multicomponent silicone formulation/silicone mixture in concentrations below 1000 ppm on dry silicone basis e.g. without solvent/water (0.1% by weight, 1000 mg/kg dry silicone), with this limit applied to each substance individually. Please state the unambiguous chemical name, CAS number and concentration (in ppm) for each substance (D4, D5 and D6): D4: D5: D6:		

Please attach a safety data sheet for the product.

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 on the product's fulfilment of the requirements, a new declaration of fulfilment of the requirements is to be submitted to Nordic Ecolabelling.

Chemical manufacturers' signature:

Place and date:	Name of the Chemical manufacturer:
Responsible person:	Signature, responsible person:

Appendix 9 Coating and impregnation chemicals

Form for requirements O12, O13, O14 and O17.

The name of the chemical product:

Name of manufacturer of the chemical product:

The chemical product's area of use:

This declaration is based on the best available knowledge at the time of the application, including test results and/or declarations from raw material manufacturers. It is subject to change if new information or scientific findings become available. In such cases, an updated declaration must be submitted. If you do not have knowledge about the complete composition of the raw materials/ingredients in the chemical product, you are obliged to obtain this information from the raw material manufacturer.

O12 Classification of chemical products	**Yes**	**No**
Is the chemical product classified with any of the hazards listed in the Table A1 below?		

Table A1. Excluded hazards.

Classification under CLP Regulation (EC) No 1272/2008		
Hazard class	**Category**	**Hazard code**
Hazardous to the aquatic environment	Aquatic Acute 1 Aquatic Chronic 1-4	H400 H410, H411, H412, H413
Hazardous to the ozone layer	Ozone	H420
Acute toxicity	Acute Tox. 1, 2 Acute Tox. 3	H330, H310, H300 H331, H301, H311
Specific target organ toxicity	STOT SE 1 STOT SE 2 STOT RE 1 STOT RE 2	H370 H371 H372 H373
Allergenic	Resp. Sens. 1 or Skin Sens 1	H334 H317
Carcinogenic*	Carc. 1A/1B Carc. 2	H350 H351
Germ cell mutagenicity*	Muta. 1A/B Muta. 2	H340 H341
Reproductive toxicity*	Repr. 1A/1B Repr. 2	H360, H361 H362
Endocrine disruption for human health**	ED HH 1 ED HH 2	EUH380 EUH381
Endocrine disruption for environment**	ED ENV1 ED ENV2	EUH430 EUH431
Persistent, bioaccumulative and toxic properties** Very persistent, very bioaccumulative properties**	PBT vPvB	EUH440 EUH441
Persistent, Mobile and Toxic properties Very Persistent, Very Mobile properties	PMT vPvM	EUH450 EUH451

O13 Classification of ingoing substances	Yes	No
Does the chemical product contain chemical substances that are or may degrade into substances that are classified with the hazards listed in the Table A2 below?		

The requirements apply to all ingoing substances in the chemical product, but not impurities unless stated otherwise in the requirements. Ingoing substances and impurities are defined below:

Ingoing substances: *all substances* in the chemical product, regardless of amount, including additives (e.g. preservatives and stabilisers) from the raw materials of the chemical product. Substances released from ingoing substances (e.g. biocidal active substances generated by preservatives, such as formaldehyde) are also regarded as ingoing substances.*

**N.B. the difference from the definition of substances in the REACH Regulation (EC) No 1907/2006. Whereas a REACH substance encompasses a chemical element or compound as well as its stabilising additives and process impurities, a substance here refers to each of the constituents separately. The constituents of a UVCB substance (Unknown or Variable composition, Complex reaction products or of Biological materials) are also regarded separately, and all known constituents must be regarded.*

Impurities: *Trace levels of pollutants, contaminants and residues from production, incl. production of raw materials that remain in the in the chemical product in concentrations less than 100 ppm (0,0100 w-%, 100 mg/kg). For formaldehyde other than as a biocidal active substance and for arylamine, the corresponding concentration is ≤ 10 ppm (≤ 0.001 w%).*

Examples of impurities*: Background environmental pollutants from feedstock, as well as contaminants and residues from production such as reactants (incl. monomers), reagents, catalysts, by-products, scavengers, detergents for production equipment, carry-over from other or previous production lines.*

Impurities in the raw materials in concentrations ≥ 1 000 ppm (≥ 0.1 w%) are always regarded as ingoing substances, regardless of the concentration in the chemical product.

Additional information concerning definitions of ingoing substances and impurities

Limit values*: The limit for excluded ingoing substances is 0 ppm (unless otherwise stated), while there's a specific defined limit for impurities. The impurity limit applies separately to each individual excluded substance, from each individual raw material. Concentrations of different impurities with the same excluded classification or substance group characteristics shall not be summed up to meet the impurity limit in the labelled product. Also, concentrations of an individual impurity, originating from different raw materials, shall not be summed.*

UVCB substances: UVCB substances (Unknown or Variable composition, Complex reaction products or of Biological materials) have a composition of constituents that is not completely known or is variable from time to time. For UVCBs substances, all constituents that are known must be considered individually and are subject to the chemical requirements, including for instance those on excluded substances and excluded classifications.

Table A2. Excluded hazards.

Classification under CLP Regulation (EC) No 1272/2008		
Hazard class	**Category**	**Hazard code**
Hazardous to the ozone layer	Ozone	H420
Specific target organ toxicity: Repeated exposure	STOT RE 1	H372
Respiratory sensitisation	Resp. Sens. 1, 1A or 1B	H334
Carcinogenic*	Carc. 1A/1B Carc. 2	H350 H351
Germ cell mutagenicity*	Muta. 1A/B Muta. 2	H340 H341
Reproductive toxicity*	Repr. 1A/1B Repr. 2	H360, H361 H362
Endocrine disruption for human health**	ED HH 1 ED HH 2	EUH380 EUH381
Endocrine disruption for the environment**	ED ENV 1 ED ENV 2	EUH430 EUH431

Persistent, Bioaccumulative and Toxic properties**	PBT	EUH440
Very Persistent, Very Bioaccumulative properties**	vPvB	EUH441
Persistent, Mobile and Toxic properties	PMT	EUH450
Very Persistent, Very Mobile properties	vPvM	EUH451

O14 Excluded substances	**Yes**	**No**
Does the chemical product contain any of the substances from the list below? Mark your answers with an X in the relevant column. If the answer to all the substances below is No, put an X in the column to the right.		
Substances on the REACH Candidate list of SVHC substances https://www.echa.europa.eu/candidate-list-table *Siloxanes in silicone polymer in coatings and impregnations have an own requirement, see O17. This does not remove the exclusion of SVHC under O14 for siloxanes in other chemical products.*		
PBT and vPvB as defined in REACH Annex XIII, including those under ECHA PBT assessment https://echa.europa.eu/da/pbt		
Potential or identified endocrine disruptors, listed in any of the following "Endocrine Disruptor Lists" List I; II and III. *Note: Substances moved to "Substances no longer on list" and not present on Lists I-III, are no longer excluded, except for those on sublist II where concern remains. Nordic Ecolabelling will assess these on a case-by-case basis.*		
Quaternary ammonium compounds, which are not readily aerobic biodegradable* such as DTDMAC (CAS No. 61789-80-8), DSDMAC (CAS No. 107-64-2), DHTDMAC (CAS No. 61789-72-8) and DADMAC (CAS No. 7398-69-8) *According to OECD test method 301 (A-F) or 310 or equivalent methods evaluated by an independent body and controlled by Nordic Ecolabelling.		
Alkylphenols (AP) (e.g. butylated hydroxy anisole (BHA, CAS No. 25013-16-5), butylated hydroxytoluene (BHT, CAS No. 128-37-0), alkylphenol ethoxylates (APEOs) and other alkylphenol derivates (APD)		
Aziridine (CAS No. 151-56-4) and polyaziridines		
Bisphenols and bisphenol derivatives, defined as 34 bisphenols identified by ECHA for further EU regulatory risk management due to known or potential endocrine disruption or reproductive toxicity		
Ethylenediamine tetraacetate (EDTA, CAS No. 60-00-4) and its salts and Diethylenetriamine pentaacetate (DTPA, CAS No. 67-43-6) and its salts		
Per- and polyfluoroalkyl substances (PFAS)** **PFAS: as any substance that contains at least one fully fluorinated methyl (CF3-) or methylene (-CF2-) carbon atom (without any H/Cl/Br/I attached to it).		
Halogenated organic compounds. *An exemption is made for: halogenated organic pigments that meet the European Council's "Resolution AP (89) 1 on the use of colourants in plastic materials coming into contact with food", point 2.5. (Perflourinated and polyflourinated alkyl substances are covered by their own bulletin and are not included in this exemption.)*		
Antimicrobial or disinfecting substances added for other purposes than preservation of the product*** ***An antimicrobial or disinfecting substance is a chemical/product that inhibits or stops growth of microorganisms such as bacteria, fungi or protozoa (single-celled organisms). The requirement does not apply to preservatives used to preserve the chemical product, so-called in-can preservatives.		

Nanomaterials/-particles**** *The following substances are exempted from the requirement:* *Pigments used only to impart colour and not for other purposes* *Polymer dispersions* **** Nanomaterials/-particles are defined according to the EU Commission Recommendation on the Definition of Nanomaterial (2022/C 229/01): 'Nanomaterial' means a natural, incidental or manufactured material consisting of solid particles that are present, either on their own or as identifiable constituent particles in aggregates or agglomerates, and where 50 % or more of these particles in the number-based size distribution fulfil at least one of the following conditions: (a) one or more external dimensions of the particle are in the size range 1 nm to 100 nm; (b) the particle has an elongated shape, such as a rod, fibre or tube, where two external dimensions are smaller than 1 nm and the other dimension is larger than 100 nm; (c) the particle has a plate-like shape, where one external dimension is smaller than 1 nm and the other dimensions are larger than 100 nm.		
Phthalates (Esters of 1,2-benzenedicarboxylic acid (orthophthalic acid, CAS No. 88-99-3))		
Organotin compounds		
Volatile aromatic compounds (VAC)***** *****VAC: Volatile organic compounds containing one or more benzene rings.		
If Yes to any question O12-O14 above, please provide the following information for each relevant substance: CAS No. (where possible), chemical name, concentration (in ppm, % by weight or mg/kg). Also state whether the substance is present as an ingoing substance or impurity.		

O17 Coatings and impregnations	**Yes**	**No**
Does the coating/impregnation chemical contain chromium?		
Does the coating/impregnation chemical contain fluorinated compounds?		

Please attach a safety data sheet for the product.

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 on the product's fulfilment of the requirements, a new declaration of fulfilment of the requirements is to be submitted to Nordic Ecolabelling.

Chemical manufacturers' signature:

Place and date:	Name of the Chemical manufacturer:
Responsible person:	Signature, responsible person:

Appendix 10 Plastics

Form for requirements O2, O20 and O21

The name of the plastic material:

Name of manufacturer of the plastic materials:

Type of polymer (E.g. PE, PP and if it is virgin, bio-based or recycled?):

O2 Material composition	**Yes**	**No**
Does the plastic have a density of max 0.995 g/cm3?		
Have colourants (pigment/dyes) been added to the polymer/plastic material?		
O20 Additives in plastic	**Yes**	**No**
Have chemicals such as plasticisers, antioxidants and fillers (inorganic fillers are exempt) been added to the polymer/plastic material? If yes, the additive in the polymer/plastic material needs to meet the chemical requirements O12 - O14 use Appendix 4. Attach a safety data sheet for the added chemical.		
O21 Residual monomers in plastic	**Yes**	**No**
Does the polymer/plastic material contain max 100 ppm residual monomers with a classification listed in Table A4 below? The amount can be maximum 100 ppm for each classification. Content of residual monomers must be measured for newly produced polymer.		

Table A4. Excluded classifications.

Classification under CLP Regulation (EC) No 1272/2008		
Hazard class	**Category**	**Hazard code**
Carcinogenic*	Carc. 1A/1B, Carc. 2	H350, H351
Germ cell mutagenicity*	Muta. 1A/B, Muta. 2	H340, H341
Reproductive toxicity*	Repr. 1A/1B, Repr. 2	H360, H361, H362
Specific target organ toxicity	STOT SE 1. STOT SE 2 STOT RE 1, STOT RE 2	H370, H371 H372, H373
Acute toxicity	Acute Tox. 1, 2 Acute Tox. 3	H330, H310, H300 H331, H301, H311
Endocrine disruption for human health**	ED HH 1 ED HH 2	EUH380 EUH381

**Includes all classification variants (e.g. H350 also H350i).*

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 on the product's fulfilment of the requirements, a new declaration of fulfilment of the requirements is to be submitted to Nordic Ecolabelling.

Polymer/plastic manufacturers' signature:

Place and date:	Name of the Polymer/plastic manufacturer:
Responsible person:	Signature, responsible person:

Appendix 11 Raw materials for bio-based polymers

Form for requirement O10

Name of the bio-based material:

Name of the producer of the bio-based material:

Name of the polymer type and what raw materials areused:

O10 Raw materials for bio-based polymers	**Yes**	**No**
Is palm oil (incl. PFAD, Palm Fatty Acid Distillate), soybean oil, and soy flour used as raw material for the bio-based polymer?		
Is the raw material defined as Waste or residual products** as defined in accordance with (EU) Renewable Energy Directive 2018/2001? Residual products as defined by EU Directive 2018/2001/EC. Residues come from agriculture, aquaculture, fisheries, and forestry, or they can be processing residues. A processing residual product is a substance that is not one of the end products that the production process directly strives for. Residues must not be a direct target of the process and the process must not be changed to intentional production of the residual product. Examples of residual products are e.g., straw, husks, pods, the non-edible part of maize, manure, and bagasse. Examples of processing residues are e.g., raw glycerine or brown lye from paper production. Palm Fatty Acid Distillate (PFAD) or Palm Oil Mill Effluent (POME) from palm oil is not considered a residual/waste product and can therefore not be used. *Attach documentation which shows that the requirement's definition of waste or residual products is met, as well as traceability which shows where the waste or residual product comes from.*		
Is the raw material certified by one of the following certification schemes? Bonsucro EU ISCC EU or ISCC Plus Attach a copy of a valid CoC certificate/certificate number from the supplier. Traceability must at least be ensured by mass balance. Book and claim systems are not accepted.		
If No, state what certification system the raw materials are certified by: Attach a copy of a valid CoC certificate/certificate number from the supplier. Traceability must at least be ensured by mass balance. Book and claim systems are not accepted. A standard/certification scheme must meet the requirements in Appendix 11.		
Has the primary feedstock been genetically modified (this also applies to mass balance approach)?		

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 on the product's fulfilment of the requirements, a new declaration of fulfilment of the requirements is to be submitted to Nordic Ecolabelling.

Polymer manufacturers' signature:

Place and date:	Name of the Polymer manufacturer:
Responsible person:	Signature, responsible person:

Appendix 12 Directions for raw material standards and certification schemes

Nordic Ecolabelling sets requirements on the standards to which feedstock is certified. These requirements are described below. Each individual raw material/feedstock standard or certification scheme is reviewed by Nordic Ecolabelling as to fulfilment of the requirements. When a raw material/feedstock standard is revised, it is re-reviewed by Nordic Ecolabelling.

Requirements on raw material standards

- The standard must balance economic, ecological and social interests and comply with the Rio Declaration's forestry principles, Agenda 21 and the Forest Principles, and respect relevant international conventions and agreements.
- The standard must contain absolute requirements and promote and contribute towards sustainable cultivation of raw materials. Nordic Ecolabelling places special emphasis on the standard including effective requirements to protect the forest from illegal felling and that the requirements protect the biodiversity of the forest.
- The standard must be available to the general public. The standard must have been developed in an open process in which stakeholders with ecological, economic and social interests have been invited to participate.

The requirements related to standards are formulated as process requirements. The basis is that if stakeholders agree on the economic, social and environmental aspects of the forestry/feedstock standard, this safeguards an acceptable requirement level.

If a standard is developed or approved by stakeholders with ecological, economic and social interests, the standard may maintain an acceptable standard. Accordingly, Nordic Ecolabelling requires that the standard balances these three interests and that representatives from all three areas are invited to participate in development of the standard.

The standard must set absolute requirements that must be fulfilled for the certification of the feedstock. This ensures that the forest management fulfils an acceptable level regards the environment. When Nordic Ecolabelling requires that the standard shall "promote and contribute towards sustainable cultivation", the standard must be assessed and revised regularly to initiate process improvement and successively reduce environmental impact.

Requirements on certification system

- The certification system must be open, have significant national or international credibility and be able to verify that the requirements in the forestry standard are fulfilled.

Requirements on certification body

- The certification body must be independent, credible and capable of verifying that the requirements of the standard have been fulfilled. The certification body must also be able to communicate the results and to facilitate the effective implementation of the standard.

The purpose of certification is to ensure that the requirements regarding raw material/feedstock standards are fulfilled. The certification system must be designed to verify that the requirements of the forest standard are fulfilled. The method used for certification must be repeatable and applicable to relevant feedstock/forestry. Certification must be in respect to a specific raw material standard. The forest must be inspected prior to certification.

Requirements on Chain of Custody (CoC) certification

- Chain of Custody certification must be issued by an accredited, competent third party (as for forest certification).
- The system shall stipulate requirements regarding the chain of custody that assure traceability, documentation and controls throughout the production chain.

Documentation

Copy of raw material standard, name, address and telephone number to the organization who has worked out the standard and audit rapports.

References to persons who represents stakeholders with ecological, economic and social interests who have been invited to participate.

Nordic Ecolabelling may request further documents to examine whether the requirements of the forestry standard and certification system in question can be approved.

Appendix 13 Analysis and laboratories

Choice of analysis laboratory
The analysis laboratory shall fulfil the general requirements of standard EN ISO 17025 or have official GLP status.

Company's own laboratory may act as a test laboratory if:

- The manufacturer has a quality management system encompassing sampling and analysis and has been certified to ISO 9000.
- The test method for performance test is part of the quality system.
- Nordic Ecolabelling shall have access to all raw data from performance testing.

Formaldehyde in adhesives
The content of formaldehyde in adhesives can be determined with an appropriate method, e.g. HPLC, the Merckoquant method or other equivalent test method.

Appendix 14 Information on properties

For requirement O28

Product datasheets for the disposable article must as a minimum contain the following information:

Name of producer: (the supplier of the disposable product)

Product name:

Product number:

Material/combination of materials: (description of the primary materials in the product)

Stable in the following temperature range:

Min. temperature: (e.g. 0 ºC)_____

Max. temperature: (e.g. +40 ºC)_____

Grease proof: (yes/no)

Restrictions: (e.g. not suitable for contact with moderately and highly acidic foodstuffs (pH<4,5))

Suitable for freezer storage: (yes/no)

Suitable for refrigeration: (yes/no)

Suitable for heat retention (thermal effect) (yes/no)

Suitable for liquids: (yes/no)

Suitable for heating in oven: (yes/no)

Suitable for microwave oven: (yes/no)

Storage: (e.g. dry and cool (10-25 ºC). Keep out of direct sunlight)

Other relevant information on use: