

About Nordic Swan Ecolabelled
Packaging for Liquid Foods



Version 1.0 • date – date
Consultation draft 17 October 2017

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This document is a translation of an original in Swedish. In case of dispute, the original document should be taken as authoritative.

Addresses

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

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What is a Nordic Swan Ecolabelled Packaging for liquid foods?

The Nordic Ecolabelling Criteria Packaging for liquids foods are intended to stimulate the development of renewable materials in the packaging.

Environmental benefits can be expected with regard to renewable material replacing products from a fossil source. This will conserve fossil resources and reduce emissions of greenhouse gases. The criteria therefore focus on sustainably produced raw materials, chemicals and waste, and on ensuring that environmental benefits are not achieved at the expense of the packaging's primary function, which is to protect and contain the food product. The focus of the criteria is thus on where there is relevance, potential and steerability to achieve environmental benefits.

Nordic Swan Ecolabelled packaging in contact with liquid foods:

- consists of a high ratio of renewable material, in order to conserve the Earth's resources;
- fulfils the requirements of the traceability of wood fibre and the requirements of the certification of raw materials;
- fulfils the high requirements made of constituent chemicals, for the benefit of health aspects, as well as opportunities for reuse;
- does not contain recycled plastic or paper to ensure that no harmful substances migrate to the product.; and
- can be recycled, which promotes the circular economy.

Packaging for liquid foods is not a traditional Nordic Swan Ecolabelled product, since here it is the actual packaging that is Nordic Swan Ecolabelled, and not the product inside the packaging. To make this clear to the consumers, a special label for Nordic Ecolabelled packaging for liquid foods must be used. Guidelines for the use and placement of the label have also been developed. For example, the label should not be placed on the front side (shelf-facing side) of the product. Appendix 1 contains guidelines for using the label on Nordic Swan Ecolabelled packaging.

Why choose the Nordic Swan Ecolabel?

- Packaging for liquid foods may use the Nordic Swan Ecolabel trademark for marketing. The Nordic Swan Ecolabel is a very well-known and well-reputed trademark in the Nordic region.
- The Nordic Swan Ecolabel is a simple way of communicating environmental work and commitment to customers.
- The Nordic Swan Ecolabel clarifies the most important environmental impacts and thus shows how a company can cut emissions, resource consumption and waste management.
- Environmentally suitable operations prepare packaging for liquid foods for future environmental legislation.
- Nordic Ecolabelling can be seen as providing a business with guidance on the work of environmental improvements.

- The Nordic Swan Ecolabel not only covers environmental issues but also quality requirements, since the environment and quality often go hand in hand. This means that a Nordic Swan Ecolabel licence can also be seen as a mark of quality.

What can carry the Nordic Swan Ecolabel?

The product group consists of primary packaging* for liquid pre-packaged foods**. The actual content, i.e. the liquid food product, is not included in the product group. Should any doubt arise as to which packaging is included in the product group, this will be decided by Nordic Ecolabelling.

Packaging intended to be in contact with a liquid food product for a short time, e.g. take away coffee cups and pizza packs, cannot be Nordic Swan Ecolabelled according to these criteria. These products can be Nordic Swan Ecolabelled according to Nordic Ecolabelling's Criteria for Disposables for Food.

** In accordance with EU Directive 94/62/EC¹ on packaging and packaging waste, the term "primary packaging" is defined as consumer packaging, i.e. packaging conceived so as to constitute a sales unit to the final user or consumer at the point of sale.*

*** The term "pre-packaged foodstuff" is defined in accordance with EU Regulation 1169/2011: an individual product that in unchanged condition is intended to be sold to final consumers and mass caterers and which consists of a food product and the packaging in which it is placed before it is offered for sale, irrespective of whether the packaging contains the food in full or only in part, but in any case so that the packaging contains the food product in such a way that the contents cannot be altered without opening or changing the packaging; food products that are packaged at the place of sale at the consumer's request, or are pre-packaged for direct sale will not be considered to be pre-packaged foodstuffs.*

How to apply

Application and costs

For information about the application process and fees for this productgroup, please refer to the respective national web site. For addresses see page 2.

What is required?

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

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

¹ <http://eur-lex.europa.eu/legal-content/SV/TXT/PDF/?uri=CELEX:01994L0062-20150526&from=EN>
accessed 2016-12-20

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:

✉ Enclose

📍 Requirement checked on site

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

License 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 extended or adjusted, in which case the licence is automatically extended and the licensee informed.

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

On-site inspection

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

Queries

Please contact Nordic Ecolabelling if you have any queries or require further information. See page 2 for addresses. Further information and assistance (such as calculation sheets or electronic application help) may be available. Visit the relevant national website for further information.

1 Overview of requirements

This section considers overview of requirements. The overview is structured so as to clarify who is primarily responsible for documenting specific requirements in the criteria. Concepts and definitions are also specified further in chapter, Terms and Definitions.

Table 1. Overview of the requirements made in the criteria.

Requirement no.	Name of requirement	Who documents?	Use declaration
Requirement of primary packaging (Nordic Swan Ecolabelled packaging - packaging in which the food is packaged)			
O1	Information on the food and its packaging	Food producer/ packaging manufacturer	2 3
O2	Materials composition	Packaging manufacturer	3
O3	Material in contact with food	Food producer/ packaging manufacturer	
O4	Testing - Migrates	Food producer/ packaging manufacturer	
O5	Packaging design	Packaging manufacturer	
O6	Recycling of primary packaging Packaging design	Packaging manufacturer	3
O7	Plastic packaging - recycling design	Packaging manufacturer	
O8	Information to consumer	Food producer	
Requirements of constituent material (e.g. polymers, paperboard)			
Pulp, paper and paperboard			
O9	Pulp	Pulp producer	MSA*
O10	Paper and paperboard	Paper manufacturer	MSA
O11	Wood raw material	Pulp producer	MSA
O12	Optical brightener and anti-bacterial agent	Paper manufacturer	MSA
O13	Coating and impregnation	Chemical producer, pulp and paper producer	5 MSA
* MSA, My Swan Account, is Nordic Ecolabelling's web-based application guide for pulp and paper producers.			
Polymers			
O14	Agricultural commodities, including palm oil, soya and sugar cane	Polymer producer	
O15	GMO	Polymer producer	
O16	Energy - biobased polymers	Polymer producer	
O17	Plastic additives	Polymer producer	7
O18	Residual monomers of plastic	Polymer producer	7

Requirements of chemical products and substances on conversion/finishing			
O19	Classification of chemical products	Chemical manufacturer/supplier	5
O20	Chemical substances, CMR	Chemical manufacturer/supplier	5
O21	Other excluded substances	Chemical manufacturer/supplier	5
O22	Inks for printing and dyeing	Chemical manufacturer/supplier	5
O23	Adhesives	Chemical manufacturer/supplier	5
Quality and regulatory requirements			
O24	Responsible person and organisation	Food producer/ packaging manufacturer	
O25	Documentation	Food producer/ packaging manufacturer	
O26	Packaging quality	Food producer/ packaging manufacturer	
O27	Planned changes	Food producer/ packaging manufacturer	
O28	Unforeseen non-conformities	Food producer/ packaging manufacturer	
O29	Traceability	Food producer/ packaging manufacturer	
O30	Take-back system	Food producer/ packaging manufacturer	
O31	Laws and regulations	Food producer/ packaging manufacturer	
O32	Subsuppliers	Food producer/ packaging manufacturer	

2 Requirements of Nordic Swan Ecolabelled packaging

Requirements in this section concern Nordic Swan Ecolabelled packaging, i.e. primary packaging in which the food is packaged. Primarily the packaging manufacturer and food producer must document the requirements in this section.

O1 Information on the food and its packaging

The food producer and packaging manufacturer must state the following information concerning

- **the food** packaged in Nordic Swan Ecolabelled packaging. Report all product names and brands, volume units and how long the food is intended to be kept in the packaging. State information concerning the primary packaging (manufacturer, trade name, type of packaging e.g. bottle, stopper, label).
- **Primary packaging*** - trade name, design and a technical description of how production will look. The description must also include any conversion at subsuppliers. Subsuppliers must be described with company name, production site, contact person and the production processes performed (e.g. coating, printing, labels and stoppers).

- Information on **constituent material** and function in the primary packaging (e.g. paperboard, polymers including type such as PE, PP, PLA, etc.) and the quantities of the various types of material (% by weight of each material in relation to the packaging's total weight). The overview must include the trade name of the material and manufacturer and a product data sheet or similar for them all must also be enclosed. See also requirement O2 concerning the constituent materials, in which requirements are made of the input material.
- **Chemical products** used in the conversion of primary packaging, e.g. printing ink. The list of chemical products must include full name, function and manufacturer. A safety data sheet must also be enclosed which must be in accordance with Annex II in REACH (Regulation 907/2006/EC).
- Information concerning the packaging system. Also state the trade name, manufacturer and material used for the secondary** and tertiary packaging*** or other elements**** which accompany the primary packaging on marketing to end-consumers.

Extrusion coating and adhesives are considered to be constituent material, but not other chemical products such as printing ink or mineral coating.

** Primary packaging is consumer packaging, i.e. packaging conceived so as to constitute a sales unit to the final user or consumer at the point of sale.*

*** Secondary packaging is group packaging that can be removed from the product without this affecting the product's characteristics.*

**** Tertiary packaging is transport packaging which supports handling and transport.*

***** "Other elements" are components which belong to the packaging, but which are not directly necessary to wrap the food. Examples of "other elements" are supplementary components such as straws.*

- ☒ Descriptions in accordance with the requirements. Appendix 2 is completed by the food producer, Appendix 3 by packaging manufacturer. A product data sheet must be enclosed as part of the documentation.

O2 Constituent materials

At least 90% by weight of primary packaging must be made from biobased material*.

Maximum 10% by weight of packaging may consist of non-renewable material. Extrusion coating/lamination and adhesives must be included in the calculation of constituent materials. Other chemicals, such as mineras, printing ink and additives, may not be included.

Other elements described in O1 must be included in the constituent materials.

Metal shall not be used. The requirement does not apply threaded metallic seals or foil that can be removed completely at the opening of the packaging and sorted into metal recycling.

Recycled plastic and recycled pulp/paper/paperboard must not be included.

PVC or plastic based on other types of halogenated plastics must not be used.

** Biobased material: mass balance is not approved to calculate the ratio of biobased material in packaging which solely comprises plastic, e.g. plastic bottles, but there must be full traceability for the biobased plastic. For constituent components of plastic, such as stoppers and coatings in multi-layer packaging, or biobased plastic included with less than 10% by weight in the packaging, mass balance can be used, subject to the following conditions:*

- Biobased polymers must be used for the material production of polymers.
- Mass balance must be controlled by an independent third party. As a minimum, it must be controlled that the amount of purchased biobased raw material is equivalent to the amount of polymer sold as biobased.

If the mass balance method is used, the packaging manufacturer must report, e.g. with an invoice, that biobased polymers are purchased.

For definitions of the terms "biobased" and "component", see Chapter, Terms and definitions.

- ☒ Calculation showing that at least 90% by weight of the packaging is made from biobased material. Appendix 3 must be used.
- ☒ In packaging which solely comprises plastic, it must be confirmed that there is full traceability, e.g. in the form of separate production lines or as batched production. Alternatively, an analysis of biobased content according to the method under the EN 16640: 201 and EN 16785-1:2015 standards, or equivalent methods, can be enclosed.
- ☒ For constituent components of plastic such as stoppers or coatings for which mass balance can be used, a declaration from an independent party must be submitted, showing that:
 - biobased polymers are registered/booked as material production of polymers; and that
 - there is a control system for purchased biobased raw materials and the amount of biobased polymer sold.The packaging manufacturer must report, e.g. with an invoice, that biobased polymers are purchased.
- ☒ Declarations from the packaging manufacturer and food producer, and also any supplier of material, that metal, PVC and PVCD and recycled plastic, as well as recycled pulp/paper/paperboard, are not included. Appendix 3 must be used.

03 Material in contact with food

Besides material in contact with food being required to fulfil current legislation*, and plastic packaging and elements of plastic being required to comply with EU Regulations**, pulp, paper and paperboard in packaging must also comply with one of the following recommendations:

- BfR's recommendation XXXVI. Paper and board for food contact, July 2015 or more recent versions, or
- CEPI's Industry guideline for the Compliance of Paper & Board materials and articles for food contact, published on 2 September 2012, or more recent versions.

** EU Regulation 1935/2004 with related amendments on materials and articles intended to come into contact with food, and EU Regulation 2023/2006 on good manufacturing practice for materials and articles intended to come into contact with food.*

*** EU Regulation 10/2011 with related amendments on plastic materials and articles intended to come into contact with food.*

- ☒ Producer must enclose copies of certificates, declarations or analysis results showing that material in contact with food fulfils legislation and, for paper products, one of the aforementioned recommendations.

O4 Testing of migrates

Migration from finished primary packaging shall not exceed 10 ug/kg (10 ppb) per migrating substance.

Primary packaging must be tested with regard to the toxicity of its overall migrate i.e. all substances that migrate (or are extractable) from the finished article using different solvents depending on the intended use.

Test method in accordance with the Food Additives & Contaminants testing method: Part A 33 (6) or similar.

- ☒ Test result from an independent third party in accordance with the method described in the requirement.

O5 Packaging design

1. A packaging manufacturer must have procedures for the design phase of the primary packaging for ensuring that primary packaging is

- resource-efficient from a materials viewpoint;
- optimised from a transport viewpoint, e.g. that the packaging's structure, and the quality and amount of materials, are matched to the relevant pressures during transport, warehousing and distribution, in order to avoid crushing/loss and that air is not transported unnecessarily;
- easy to open, reclose and empty; and
- easy to recycle and reuse.

The packaging manufacturer must also have procedures for dialogue with customers regarding recommendation for secondary and tertiary packaging that are adapted to the primary packaging.

2. Packaging manufacturers shall have procedures showing how they work with strategic goals to reduce environmental impact in the production of packaging (e.g. mapping of energy efficiency measures, dialogue with subcontractors to reduce environmental impact in raw material production.)

The goals shall be quantitative and time-based and they shall be determined by the management.

- ☒ Enclose procedures for the design of primary packaging and for the dialog with customers, showing fulfilment of the requirement.
- ☒ Enclose procedures for policy or equivalent documentation of the manufacturer's work with environmental goals, showing fulfilment of the requirement.

O6 Recycling of primary packaging

It must be possible to recycle primary packaging in today's existing recirculation systems in the Nordic countries.

Incineration with energy recovery is not considered to be material recovery.

Example of polymers/plastic from which materials cannot be recycled include biodegradable/compostable plastics such as PLA.

- ☒ Documentation showing which material the packaging is made from, see O1.

07 Plastic packaging with recycling design

For packaging which solely consists of plastic the following applies:

Filler

Filler such as CaCO_3 shall not be added to plastic packaging in a concentration so that the plastic's density exceeds 1 g/cm³.

Dyes

Plastic bottles and closing devices, such as stoppers, shall not be dyed black.

Dyes that are used must fulfil requirements O19-O22.

Label/scanning plastic size

Labels/scanning plastic shall not cover more than 60% of the packaging surface. The requirement does not apply if the same material is used in the scanning plastic/label as in the packaging.

Adhesives for labels

Adhesive used to attach labels to packaging must be hot-melt adhesive (melts at 60 to 80°C) or water-soluble and alkaline.

- ☒ Enclose information on the type of mineral in the plastic and a calculation showing that the density measurement is not exceeded.
- ☒ Packaging specification (including labels and stoppers) or declaration showing which plastic is used, information on dyeing and the size of the label in relation to the packaging.
- ☒ Documentation (e.g. as a safety data sheet) of the adhesive showing that the it is hot-melt adhesive or water-soluble and alkaline.

08 Information to consumers

Packaging must be clearly marked with indicative information on how it is to be sorted. The information must be clearly visible to the end-consumer and be of such a nature that the consumer understands what is meant. Labelling can be in the form of symbols/pictograms* or text, e.g. "Paper packaging" or "Plastic packaging". Labelling can be embossed, stamped or printed.

** Symbols are e.g. the labels advocated by the Green Dot, FTI or Rinki. General symbols such as recycling symbols or general text can also be used, but must first be approved by Nordic Ecolabelling. Note, however that, the Green Dot label will not be approved as a general symbol.*

- ☒ Enclose documentation such as a picture of the embossing, label, artwork or equivalent, to document fulfilment of the requirement.

3 Requirements of constituent substances

3.1 Pulp, paper and paperboard

The requirements of pulp, paper and board included in packaging are specified below. General requirements of the manufacture of pulp and paper can be found in Nordic Ecolabelling's modular system for paper products, to which the following requirements refer:

- Basic Module for Nordic Swan Ecolabelling of Paper products, version 2 or later.
- Chemical Module for Nordic Swan Ecolabelling of Paper Products, version 2 or later.

In addition to the existing criteria for paper products specified above, other paper, board and cardboard types may be included in packaging, and which are not subject to the aforementioned criteria. These are subject to their own specific requirements of energy and emissions to air and water. These are specified as separate reference values in O10 below.

In addition to the following requirements, requirement O22, in section 7.5, Requirements of Chemical Products on Conversion, still applies to pulp, paper and paperboard.

Pulp and paper manufacturers must document the requirement in the web-based application guide, My Swan Account can be accessed via the Internet addresses on page 2 of this document, or via <http://www.nordic-ecolabel.org/portals/paper/my-swan-account1/>

O9 Pulp

Pulp has to meet all the relevant requirements in the Basic Module for Paper Products, version 2 or later.

Documentation of the requirements must be done in the application tool My Swan Account (MSA). Please contact Nordic Ecolabelling for username and password.

- ☒ The pulp manufacturer must show that the requirements are fulfilled with completed forms in MSA.

O10 Paper and paperboard

Paper and paperboard covered by the Basic Module for Paper Products

Paper and board that is covered by the Basic Module for the “Nordic Swan Ecolabelling of Paper Products” version 2 or later must meet all the requirements in the Basic Module and the Chemicals Module for Paper Products, version 2 or later with the exception of R7 Fiber raw materials and R11 Transport in the Basic Module. There is an own requirement for fiber raw material in this criteria document, see O11.

If the paper or board already carries the Nordic Swan Ecolabel, or has been checked by Nordic Ecolabelling the requirement is considered to be fulfilled, except for fiber raw materials, which shall be documented according to requirement O11 below. State the licence certificate or information on the trading name and the manufacturer of the assessed material.

Paper and paperboard not covered by the Basic Module

Paper and board that are not covered by the Basic Module for the Nordic Swan Ecolabelling of Paper Products version 2 or later must meet all the relevant requirements in the Basic Module and the Chemicals Module for Paper Products, version 2 or later, with the exception of R7 Fiber raw materials and R11 Transport in the Basic Module. There is an own requirement for fiber raw material in this criteria document, see O11.

For energy and emissions to air and water, the reference values and requirement limits for the paper machine apply, as stated below or those given in the Criteria for Disposables in contact with food, version 4 or later. The calculation methods used in the Basic Module for Paper Products, version 2, are to be used.

Table 2. Reference values for energy

	Energy – reference values (kWh/tonne board)	
	Fuel	Electricity
Liquid packaging board	1700	800

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

	Reference values (kg/tonne board)			
	COD	P	S	NOx
Liquid packaging board	2	0.01.	0.15.	0.7.

An application for approval of pulp, paper and board is to be made via the electronic application tool My Swan Account (MSA). Contact Nordic Ecolabelling for a user name and password.



The manufacturer must show that the requirements are fulfilled with completed forms in MSA.

O11 Fiber raw material

1. Tree species listed on Nordic Ecolabelling's list of prohibited tree species* must not be used in pulp/board.

*The list of prohibited tree species is located on the website: www.nordic-ecolabel.org/wood/

2. The pulp producer must state the name (species name) of the wood raw material used in the production of pulp.
3. The pulp,- and paper/board producer must be Chain of Custody certified in accordance to FSC or PEFC.
4. Certification.

Paper/board: yearly/the latest 12 months, a minimum of 70% of the wood raw material that are used in the paper/board must origin from forestry certified under the FSC or PEFC schemes. The remaining proportion of wood raw material must be covered by the FSC/PEFC control schemes (FSC controlled wood/PEFC controlled sources).

Pulp: If the pulp is used directly in the finished packaging, for instance as pressed pulp, yearly/the latest 12 months, a minimum of 70% of the wood raw material in the pulp must origin from forestry certified under the FSC or PEFC

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

- ☐ Declaration from the pulp producer that the requirement to tree species not permitted to be used are met. Appendix 4 may be used.
- ☐ Name (species name) of the wood raw materials used in the pulp production. Appendix 4 can be used.
- ☐ A valid FSC/PEFC Chain of Custody certificate from the pulp,- and paper/paperboard producer covering all the wood raw materials in the pulp/paper/paperboard.
- ☐ Certification pulp/paper/paperboard: The producer of the packaging shall document, for instance based on invoice or delivery note, that the requirement of minimum 70% certified pulp/paper/paperboard are purchased on a yearly basis.

012 Optical brighteners and anti-bacterial agents

Optical brighteners shall not be added in paper and paperboard.

Chemicals intended to provide antibacterial properties may not be added.

An antibacterial chemical is a chemical which prevents or stops the growth of microorganisms such as bacteria, mould or protozoa (unicellular organisms). Silver compounds, nano silver and nano gold are considered to be antibacterial substances.

- ☐ Declaration from the pulp/paperboard manufacturer stating that the requirement is fulfilled.

013 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/.

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

- Solvent-based silicone coatings must not be used.
- Octamethylcyclotetrasiloxane, D4 (CAS 556-67-2) and decamethylcyclopentasiloxane, D5 (CAS 541-02-6) must not be present in the chemical products used for silicone treatment. The requirement does not apply to D4 and D5 contained as impurities*.
- Organotin catalysts must not be used in the production of the silicone polymer.

** Impurity refers to residues from primary production which may be found in the commercial product at concentrations below 800 ppm (0.08% by weight, 800 mg/kg). Finished commercial product refers to the silicone emulsion's coating bath.*

- ☐ Declaration from the chemical supplier that chromium or fluorinated compounds are not ingoing substances in the coating/impregnation chemicals. Appendix 5 may be used. Safety data sheet for the product.
- ☐ Declaration from the manufacturer of the pulp/paper/paperboard that no chromium or fluorinated compounds were added in the production of the pulp or paper/paperboard.

- ☒ Declaration from the chemical supplier that octamethylcyclotetrasiloxane, D4, and/or decamethylcyclopentasiloxane, D5, are not present in the chemical products used for silicone treatment in concentrations above 800 ppm. State the amount of D4 and D5. Appendix 5 may be used.

3.2 Polymers

The requirements in this section concern the production of biobased and fossil polymers, unless otherwise specified in the requirement.

O14 Agricultural raw materials including palm oil, soy and sugar cane

Agricultural raw materials shall fulfil the following requirements. The requirement does not apply to secondary raw materials*.

For all agricultural raw materials, state the name (in Latin and English), plus geographical origin (country/state) and supplier of the agricultural raw materials used.

Sugar cane

For bio-based plastic in packaging that only consist of plastic or that constitute more than 10% by weight in the packaging: sugar cane must be Bonsucro-certified.

Palm oil and soy oil:

Bio-based plastic in packaging that only consist of plastic:

Palm oil and soy oil can not be used as a raw material in the production of bio-based plastic.

Bio-based plastic used for coating or that constitute less than 10% by weight in the packaging:

Palm-and soy oil are allowed as a raw material in bio-based plastic used as coating and in plastic that constitute less than 10% by weight in the packaging. This also applies if the bio-based plastic for coating is bio-based by using the mass balance method. The raw materials shall have the following certification:

- Palm oil, palm kernel oil and palm oil derivatives must be RSPO certified
- Soy oil must be RTRS certified

Certified raw material (sugar cane, palm oil and soy oil)

Producer of biobased polymer or suppliers of certified raw materials must be traceability (Chain of Custody, CoC) certified in line with the current certification system, and the traceability must be assured via the mass balance system. The book and claim system is not accepted.

The producer of the bio-based polymer must document the purchase of certified raw materials.

The licenseholder/producer of the packaging must document that it is purchased bio-based polymer with the use of certified raw materials, for instance by a specification on the invoice or delivery note.

** Secondary raw materials are defined here as residual products from other production processes, such as waste products from the food industry, by-products such as straw from grain production, by-products from maize and dried palm leaves. PFAD from palm oil is not counted as a residual/waste product.*

Nordic Ecolabelling may assess other certification schemes for the raw materials above as they become relevant. The certification scheme will be assessed according to Nordic Ecolabelling's requirements concerning standards and certification systems, as set out in Appendix 6.

- ☒ Name (in Latin and English language) and geographic origin (country/state) of the agricultural raw materials used.
- ☒ Copy of valid CoC certificate or certification number. Documentation such as an invoice or delivery note from the producer of the bio-based polymer and the packaging, showing that bio-based polymer with certified raw material was purchased.

O15 Genetically modified raw materials

The requirement applies to bio-based polymer in packaging that only consist of plastic and if the bio-based polymer makes up more than 10% of the packaging by weight.

The use of genetically modified agricultural raw materials in the production of bio-based polymer packaging is prohibited.

GMO based on bacterias or enzymes manufactured in closed systems is allowed.

Secondary raw materials are exempted from the requirement, see O14 for a definition.

- ☒ Declaration from the manufacturer of the bio-based polymer that genetically modified raw materials are not used.

O16 Energy – bio-based polymers

The requirement applies to bio-based polymers that make up more than 10% of the packaging by weight. Requirement a) or b) must be fulfilled.

a) The manufacturer of the polymer (production plant) must be certified in line with ISO 50001.

or

b) The energy consumed in the production of the bio-based polymers must not exceed 50 MJ/kg polymer. The calculation of energy consumption must include all the processes from monomer production to finished polymer. Energy from cultivation and extraction of the raw material, transport of the raw material to the production site and the energy content of the actual raw material should not be included in the calculation.

Energy from both renewable and non-renewable energy sources must be included in the calculation.

- ☒ For alternative a) certificate showing that the manufacturer of the polymer (production plant) is certified in line with ISO 50001.
- ☒ For alternative b) information about electricity and fuel consumption and copy of invoice or confirmation of consumption from the supplier. State total kg polymer produced plus a calculation of total energy consumption in MJ/kg polymer produced. A description must be provided of how the energy consumption from the different subprocesses is included in the calculation.

O17 Additives in plastic

Additives in plastic, such as stabilisers, antioxidants, plasticisers, colourants/pigments and fillers (except for inorganic fillers) must meet the requirement concerning classification of chemical products, O19, and the requirements concerning ingoing substances in the chemical products, O20 and O21.

- ☒ Declaration from the plastic manufacturer that the requirement is fulfilled. Appendix 7 may be used. Safety data sheet for the additive.

O18 Residual monomers in polymers

In the primary packaging, residual monomers that have a classification listed in Table 4 below may only be present in the polymer to a maximum of 100 ppm per polymer.

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

Table 4. Classification of CMR substances

Classification under CLP Regulation (EC) No 1272/2008		
Hazard class	Category	Hazard code
Carcinogenic	Carc. 1A/1B	H350
	Carc. 2	H351
Germ cell mutagenicity	Muta. 1A/B	H340
	Muta. 2	H341
Reproductive toxicity	Repr. 1A/1B	H360, H361
	Repr. 2	H362

- ☒ Declaration from the polymer manufacturer that the content is no more than 100 ppm. Appendix 7 may be used.

4 Requirements of chemical products and substances on conversion

Nordic Ecolabelling's requirements concerning chemicals primarily concern chemical products and constituent substances in chemical products such as **adhesives and printing ink**, and which are used in the production/assembly (conversion) of the packaging.

The requirement also concerns the finishing of packaging at the food producer, e.g. glueing of labels or printing of best-before date on the packaging, if this is not covered by the packaging manufacture.

Primarily the chemicals producer delivering chemicals for packaging production is responsible for documenting that requirements of chemicals are fulfilled.

The requirement does not apply to:

- chemicals for the production and printing of secondary and tertiary packaging;
- auxiliary chemicals used in production, such as lubricants, cleaning chemicals, etc.; and
- chemicals in production of pulp/paperboard, as these must fulfil the requirements in Nordic Swan Ecolabelling of paper products – Chemicals Module, version 2 or later. Chemicals used in the production of pulp/paperboard must also fulfil the following requirements in this criteria document:
 - O12 and O13 which includes addition of chemicals to pulp/board
 - O22 which applies to dyes for printing and dyeing

Note that the requirements of additives in plastic (O17) apply to the polymer manufacturer and refer to requirements of chemicals (O19-O21).

Nordic Ecolabelling's requirements concerning chemicals concern chemical products, e.g. the classification of printing ink, but can also concern individual requirements of constituent substances in chemical products, e.g. pigments in printing ink. The requirements apply to all constituent substances in the chemical product, but not to contaminants, unless otherwise specified in the requirement. Constituent substances and contaminants are defined as follows:

Constituent substances: all substances in the chemical product, including additives (e.g. preservatives and stabilisers) from the raw materials. Known degradation products from constituent substances (e.g. formaldehyde, acrylamide, in-situ generated preservatives) are also considered to be constituent substances.

Contaminants: residual substances from production, including raw materials production, which are found in a raw material or the final chemical product, equivalent to concentrations ≤ 100 ppm ($\leq 0.01\%$ by weight, ≤ 100 mg/kg) in the chemical product. Examples of what are considered to be contaminants are residual concentrations of the following: reagents, including monomers catalysts, by-products, "scavengers", i.e. chemicals used to eliminate/minimise adverse substances, cleaning agents for production equipment, "carry-over" from other or previous production lines.

O19 Classification of chemical products

Chemical products used in the assembly (conversion) and finishing of primary packaging, such as printing ink and adhesives, must not be classified according to Table 5 below. The classification must be in accordance with current legislation (CLP Regulation 1272/2008 or later).

Table 5. Classification of chemical product

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
Acute toxicity	Acute Tox. 1, 2 Acute Tox. 3	H330, H310, H300 H331, H301, H311
Specific target organ toxicity	STOT SE 1 STOT RE 1	H370 H372
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

The classifications in the Table concern all classification variants. For example, H350 also covers classification H350i.

The manufacturer of the chemical products is responsible for classification.

- ☒ Declaration from the producer of the chemical product in accordance with Appendix 5.
- ☒ Safety data sheet in accordance with the current statutory requirement in the country of application, e.g. Annex II to REACH (Council Regulation (EC) no. 1907/2006) for all chemical products.

O20 CMR substances

The chemical products used in the assembly (conversion) and finishing of primary packaging, e.g. printing ink and adhesives, may not include substances (see definition above) that are classified as carcinogenic (Carc.), mutagenic (Muta.) or reprotoxic (Repr.) in accordance with CLP Regulation 1272/2008, see Table 6 below.

An exemption is made for formaldehyde in additives, see O23.

Table 6. Classification of CMR substances

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

The classifications in the Table concern all classification variants. For example, H350 also covers classification H350i.

- ☒ Declaration from the producer of the chemical product in accordance with Appendix 5.
- ☒ Safety data sheet in accordance with the current statutory requirement in the country of application, e.g. Annex II to REACH (Council Regulation (EC) no. 1907/2006) for all chemical products.

O21 Other substances excluded from use

The following substances must not be constituent in the chemical products used in in the assembly (conversion) and finishing of primary packaging e.g. printing ink and adhesives,

- Substances on the EU Candidate List.*
- Substances evaluated by the EU to be PBT (persistent, bioaccumulative and toxic) or vPvB substances (very persistent and very bioaccumulative), in accordance with the criteria in Appendix XIII of REACH and substances that have not yet been evaluated but which meet these criteria.
- Substances considered to be potential endocrine disruptors in category 1 or 2 on the EU's priority list of substances that are to be investigated further for endocrine disruptive effects.**

In addition, the following substances and substance groups may not be included. There may be overlap between the substances listed below and the substances or groups of substances listed above.

- Alkylphenol ethoxylates (APEO) and other alkylphenol derivatives (substances that release alkylphenols on degradation).
- Phthalates.***
- Bisphenols A, bisphenol F and bisphenol S

- Butylhydroxytoluene (BHT)
- Antibacterial agents (e.g. nanosilver)****
- Halogenated organic compounds. An exceptions 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
- Methylisothiazolinone (MI)

* The Candidate List can be found on the ECHA website: <http://echa.europa.eu/candidate-list-table>

** See Annex 1 – Candidate list of 553 substances at:
http://ec.europa.eu/environment/chemicals/endocrine/strategy/being_en.htm

*** The prohibition does not include polyethylene terephthalate (PET).

**** An antibacterial agent is a chemical/product that inhibits or stops growth of microorganisms such as bacteria, fungi or protozoa (single-celled organisms).

- ☒ Declaration from the producer of the chemical product in accordance with Appendix 5.
- ☒ Safety data sheets according to prevailing European legislation for chemical products.

O22 Colourants for printing and dyeing

The requirement applies to colourants for printing, dyeing and shading.

All colourants used for printing, dyeing and shading must be declared and safety data sheets for the products must be submitted. All colourants must meet the following requirements:

- The colourants must meet BfR's (Federal Institute for Risk Assessment) recommendations: "IX. Colorants for Plastics and other Polymers Used in Commodities"
- Halogenated organic pigments must meet the European Council's "Resolution AP (89) 1 on the use of colourants in plastic materials coming into contact with food".

- ☒ Declaration from the manufacturer of the colourant that the requirement is fulfilled. Appendix 5 may be used.

O23 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 8.

* 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.

5 Quality and regulatory requirements

Requirements of quality and regulatory are to ensure compliance with Nordic Ecolabelling's requirements for the packaging throughout the term of validity of the licence.

024 Responsible person and organisation

The company will appoint individuals who are responsible for ensuring the fulfilment of the Nordic Swan Ecolabelling requirements, for marketing and for finance, as well as a contact person for communication with Nordic Ecolabelling.

- ☒ Organisational chart showing who is responsible for the above.

025 Documentation

The producer must archive the documentation that is sent in with the application, or in a similar way maintain information in the Nordic Ecolabelling data system.

- 🔑 This is checked on site as necessary.

026 Quality of the packaging

The producer must guarantee that the quality of the Nordic Swan Ecolabelled packaging does not deteriorate during the term of validity of the licence.

- 🔑 The claims archive is checked on site.

027 Planned changes

Written notice of planned product and marketing changes that affect fulfilment of the Nordic Swan Ecolabelling requirements must be notified in writing to Nordic Ecolabelling.

- ☒ Procedures detailing how planned product and marketing changes are handled.

028 Unforeseen non-conformities

A written report on any unforeseen non-conformities that affect fulfilment of the Nordic Swan Ecolabelling requirements must be submitted to Nordic Ecolabelling and logged.

- ☒ Procedures describing how unforeseen non-conformities will be handled.

029 Traceability

The producer must be able to trace the Nordic Swan Ecolabelled packaging in their production.

- ☒ Description of/procedures for fulfilment of the requirement.

030 Take-back system

Relevant national regulations, legislation and/or agreements within the sector regarding take-back systems for products and packaging must be complied with in all the Nordic countries where the Nordic Swan Ecolabelled packaging is marketed.

- ☒ Declaration from the applicant regarding affiliation to existing recycling/processing agreements.

031 Laws and regulations

The producer must ensure compliance with all relevant applicable local laws and provisions at all production facilities for the Nordic Swan Ecolabelled product, e.g. with regard to safety, working environment, environmental legislation and facility-specific terms/concessions.

- 🔍 The requirement is controlled on-site.

032 Subsuppliers

The producer must ensure that all subsuppliers and external processors engaged for the production of packaging that is to carry the Nordic Swan Ecolabel fulfil the requirements relevant for their activities, as specified in the criteria.

- ☒ Documentation to show that the requirement is fulfilled.

Regulations for the Nordic Ecolabelling of products

Packaging for liquid foods is not a traditional Nordic Swan Ecolabelled product, since here it is the actual packaging that is Nordic Swan Ecolabelled, and not the product inside the packaging. To make this clear to the consumers, a special label for Nordic Ecolabelled packaging for liquid foods must be used. Guidelines for the use and placement of the label have also been developed. For example, the label should not be placed on the front side (shelf-facing side) of the product. Appendix 1 contains guidelines for using the label on Nordic Swan Ecolabelled packaging.

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

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

Follow-up inspections

Nordic Ecolabelling may decide to check whether packaging 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 packaging for liquid foods 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.

Terms and definitions

Term	Explanation or definition
Biobased	<p>Biobased means that the material consists of biomass that may have undergone physical, chemical or biological treatment(s). Biomass has a biological origin, but excludes material that is found embedded in geological and/or fossil formations. Examples of biomass are: (all or parts of) plants, trees, algae, marine organisms, microorganisms, animals, etc.</p> <p>Biobased polymer/plastic: Polymer/plastic that is fully or partly based on biomass. Nordic Ecolabelling does not consider that biodegradable/compostable fossil-fuel plastic should be considered to be biobased plastic.</p> <p>The definition of biobased polymer/plastic is based on the definitions in the European standard EN 16575:2014 and also includes secondary raw materials.</p>
Biomass	<p>In accordance with the Renewable Energy Directive 2009, biomass is the biologically degradable element of products, waste and residual products of biological origin from agriculture (including material of vegetable and animal origin), forestry and related industry, including fishing and aquaculture, as well as the biologically degradable elements of industrial waste and municipal waste.</p>
Blanks	<p>Preform of packaging. Preforms are delivered from the packaging manufacturer to the food manufacturer for further processing as a filling. See also conversion.</p>
Bonsucro	<p>Bonsucro (formerly the Better Sugar Cane Initiative, BSI) comprises guidelines for the sustainable production and processing of sugar cane. The first version of the Bonsucro criteria was adopted and published on 27 June 2010.</p>
Full traceability (for biobased polymers):	<p>Full traceability means that there is control of the renewable raw material throughout the production process, such as by using a separate production line solely for renewable raw materials, so that the final polymer solely comprises renewable raw materials.</p>
Component:	<p>A component is one or more materials and/or chemical products which together fulfil a required function in packaging production. Examples of components are laminated paperboard or plastic screw tops.</p>

Conversion	Conversion is the manufacturing phases in which e.g. rolls of liquid packaging board are processed into final products (packaging in which food is packaged). In the case of beverage cartons, conversion comprises phases whereby paperboard roll is processed into blanks, including coating, printing and cutting. According to these criteria, relevant elements of food filling may also be included.
Mass balance method (for biobased polymers):	The mass balance method means a mix of fossil and biobased raw materials at the start of the production process, with mathematical allocation of the renewable raw material to the final polymer. This entails that there is no full traceability of the renewable raw material throughout the production process, and that the amount of renewable raw material in the final polymer can vary.
Material	Examples of material that may be included in packaging: paper, paperboard, synthetic polymers such as PLA, PP, PE, and PET, as well as metals.
Intermediate product	In these criteria, intermediate products are packaging that does not contain packaged food. See also the definition of final product.
NIAS	Non-intentionally added substances (NIAS). Substances not added intentionally.
MSA	My Swan Account. Nordic Ecolabelling's web-based application guide for paper and paperboard manufacturers. The tool also applies to pulp and chemicals producers wishing to have their products controlled by Nordic Ecolabelling.
Packaging	According to the EU Directive on packaging and packaging waste, 94/62/EC, packaging is all products made from material of any type and which is used to contain, protect, handle, deliver and present products, from raw material to final product, and from producer to user and consumer. Disposable items used for the same purpose are also considered to be packaging. Norway is not an EU member state, but is subject to the EEA agreement. See also primary, secondary and tertiary packaging.
Primary packaging	Consumer packaging, i.e. packaging conceived so as to constitute a sales unit to the final user or consumer at the point of sale. According to these criteria, primary packaging may be Nordic Swan Ecolabelled.
Product	In contrast to Nordic Ecolabelling's other criteria, the term product not only refers to the Nordic Swan Ecolabelled packaging, but also the packaged food and its packaging.

Renewable raw material	A renewable raw material is defined as a raw material (primary or secondary) originating from biological material which is renewed continuously in nature within the immediate future, such as cereals and wood (European standard EN 16575:2014).
Secondary raw materials	Secondary raw materials are defined as residual products from other production and manufacturing processes, such as waste products from the food industry, or by-products such as straw from cereal production or bagasse from sugar cane production.
Secondary packaging	Group packaging, i.e. packaging that is designed in such a way that at the point of sale they comprise a group of a certain number of sales units, irrespective of whether they are sold as such a group to the final user or consumer, or are solely used to complement the shelves at the point of sale. Secondary packaging can be removed from the product without this affecting the product's characteristics.
Tertiary packaging	Transport packaging, i.e. packaging that is designed in such a way that it supports the handling and transport of a number of sales units or group packaging in order to prevent damage from physical handling or transport damage. Transport packaging does not include road, rail, ship and air freight containers.
Auxiliary component	Components which belong to the packaging, but which are not directly necessary to wrap the food. Examples of auxiliary components are labels, straws or corrugated cardboard packaging/paperboard as in a bag-in-box to support a bag of plastic.
RSPO	Roundtable on Sustainable Palm Oil (RSPO) was created by organisations involved in the entire palm oil supply chain. The standard comprises eight principles and 39 criteria for sustainable palm oil production. The criteria comprise social, economic, organic and general aspects. There is great interest in the system and several companies have been granted certificates.
RTRS	Roundtable on Responsible Soy (RTRS) is initiated by operators from the entire soya production and distribution chain. The first version of the criteria was adopted and published on 10 June 2010.

Recycled material

Recycled material is defined in accordance with ISO 14021 in the following two categories.

Material in the pre-consumer phase. Material that has been taken from the waste flow during the manufacturing process. The exception is the re-use of material that is generated in a process, e.g. waste that can be recycled within the same process that generated it.

Material in the post-consumer phase. Material generated by households or by trade, industry or institutional facilities in their role as end-users of a product that can no longer be used for its intended purpose. This includes the return of materials from the distribution chain.

Appendix 1 The design of the Nordic Swan Ecolabel on packaging

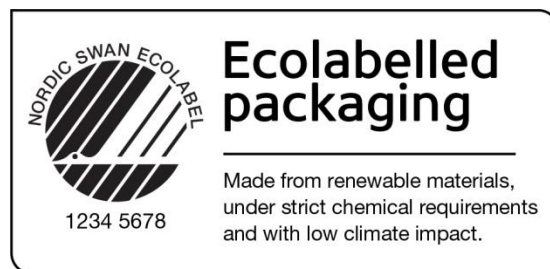
Label for use on Nordic Swan Ecolabel packaging for liquid foods

Two versions of the label have been created for use on Nordic Swan Ecolabel packaging for liquid food products, with or without an explanatory text. The producer is free to choose which version to use, but we recommend using version A, as consumer surveys show that a large majority of consumers prefer this.

The label may be used on the packaging itself and in marketing of the product, for as long as the licence is valid.

Version A – recommended version

with explanatory text:



Version B

without explanatory text:



Rules for use of the label on Nordic Swan Ecolabel packaging for liquid foods

1. The label is only used in black.
2. Only a version of the label provided by Nordic Ecolabelling or downloaded from our website may be used. The symbol may never be changed or distorted.
3. The label must be placed on the reverse side of the packaging and together with any other labelling schemes relating to the actual packaging. The label may never be placed on the front (shelf-facing side) of the packaging.
4. The logo must be placed with space to other logos and/or elements on the packaging.
5. The label must be used in a size which ensures that text in the smallest font is clear and legible. Minimum breadth 30 mm.
6. The packaging design must be approved by the national ecolabelling organisation before being put into production.



Rules for use of the label in marketing

Rules will be drawn up for the use of the symbol in marketing. The general rule is that there must never be any doubt concerning which element of the product is Nordic Swan Ecolabelled

Appendix 2 Declaration Information about the food and its packaging

Declaration for requirement O1 is completed by the food producer.

The food producer is the trademark owner of the pre-packaged food. Product is the packaged food and its packaging.

Food producer	Trademark/trade name of the product
Type of product (e.g. milk, juice)	Volume units of the product

Primary packaging

State information concerning the primary packaging*.

Packaging manufacturer	Trade name of primary packaging:	Type of primary packaging, e.g. bottle, stopper, label

** Primary packaging is consumer packaging, i.e. packaging conceived so as to constitute a sales unit to the final user or consumer at the point of sale.*

Packaging system

State information concerning the packaging system. State the manufacturer, trade name and material used for the secondary** and tertiary packaging*** or other elements**** which accompany the primary packaging on marketing to end-consumers.

Packaging manufacturer	Trade name on the packaging:	Type of packaging/elements	Material

*** Secondary packaging is group packaging that can be removed from the product without this affecting the product's characteristics.*

**** Tertiary packaging is transport packaging which supports handling and transport.*

***** Other elements are components which belong to the packaging, but which are not directly necessary to wrap the food. An example of an auxiliary component is a straw.*

Are other production phases or suppliers used that are not included in the aforementioned primary packaging or packaging system? ☐ Yes ☐ No

If yes, please specify:

Manufacturer	Trademark/trade name:	Type

Chemical products

Are chemical products used that are not included in the aforementioned primary packaging or packaging system? ☐ Yes ☐ No
 An example of these phases could be toner used for date labelling.

If yes, please specify:

Chemical products	Manufacturer	Function

Place and date:	Company name/stamp:
Person responsible:	Signature of the person responsible (electronic signature is accepted):
Telephone:	E-mail:

Appendix 3 Information concerning primary packaging

Declaration for requirements O1, O2 and O6 is completed by the packaging manufacturer.

Packaging manufacturer	Trademark/trade name of the primary packaging:
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Constituent materials

Does the packaging include metal? ☐ Yes ☐ No

Does the packaging include recycled plastic? ☐ Yes ☐ No

Does the packaging include recycled pulp/paper/paperboard? ☐ Yes ☐ No

Does the packaging include PVC or PVDC? ☐ Yes ☐ No

Description of the manufacturing process

Give a description of the manufacturing/production process, including conversion, for the product. Manufacturing/production process is a specification of constituent materials and their suppliers, a description of how the final product is assembled (if it consists of several materials), and whether subsuppliers are used for e.g. printing. Table 1 below can be used to specify subsuppliers and the production process which they perform.

Table 1 Subsuppliers

Name of subsupplier	Production site	Contact person	Production process

In Table 2, constituent materials in the packaging and any other accompanying elements must be stated. The supplier/producer of the various materials must be stated. The weight of the individual material, and % by weight in relation to the total weight of the packaging, must also be stated. Glue and coatings are considered to be constituent materials, but not other chemicals such as printing ink or mineral chemicals.

Table 2 Overview of materials, suppliers and volumes

Material	Function	Supplier/producer of the material	Weight (grammes or kg) of the material	% by weight of the material as a ratio of the total weight of the packaging	Is the material biobased? State Yes/No
Total weight in grammes				100 %	

Ratio of biobased material in the product: _____

Chemical products on conversion

Were chemical products (e.g. printing ink) used on conversion? ☐ Yes ☐ No

Conversion is the production/assembly and finishing of primary packaging, including coating, printing and cutting.

If yes, specify which (e.g. printing ink, glue)

Chemical products	Function	Manufacturer	

Also enclose the safety data sheet for the chemical product, in accordance with applicable European legislation.

Place and date:	Company name/stamp:
Person responsible:	Signature of the person responsible (electronic signature is accepted):
Telephone:	E-mail:

Appendix 4 Wood material in pulp

Declaration for requirement O11 is completed by the pulp producer.

Pulp producer	Pulp name:
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Prohibited wood varieties

Were wood varieties included on the list of prohibited wood varieties (Nordic Ecolabelling-Prohibited Wood)* used in the pulp? ☐ Yes ☐ No

* A list of prohibited wood varieties can be found on the website:
www.nordic-ecolabel.org/wood/

Specify version number and date of the list of prohibited wood varieties that is used.

Nordic Ecolabelling may request further information if there is any doubt concerning specific wood varieties.

Wood species used

State the name (wood variety/species name) of the wood raw materials used in pulp:

Pulp producer's signature

Place and date	Company name/stamp
Person responsible	Signature of person responsible
Tel. no.	E-mail

Appendix 5 Declaration chemicals

This declaration must be used to document Nordic Ecolabelling's requirements of chemicals and is intended for chemical manufacturers/suppliers.

Requirements O19, O20 and O21 apply to all chemical products (part A) used in the production/assembly (conversion) of packaging.

Requirement O13, O22 and O23 are specific for certain chemical types (part B). Complete the relevant parts of the declaration. Also enclose the safety data sheet for the chemical product, in accordance with applicable European legislation.

*Nordic Ecolabelling's requirements concerning chemicals primarily concern chemical products and constituent substances in chemical products such as **adhesives and printing ink**, and which are used in the production/assembly (conversion) of the packaging.*

The form must be completed and signed by the chemicals producer, based on the knowledge held at the relevant time, according to information from raw materials producers/suppliers, recipes and available knowledge of the chemical product, with reservation for development and new knowledge. Should such new knowledge arise, the undersigned is obliged to submit an updated declaration to Nordic Ecolabelling.

Name of the chemical product
Manufacturer
Type of chemical product (e.g. glue, printing ink)

The requirements apply to all constituent substances, but not to contaminants, unless otherwise specified in the individual requirements. Constituent substances and contaminants are defined below.

Constituent substances: *all substances in the chemical product, including additives (e.g. preservatives and stabilisers) from the raw materials. Known degradation products from constituent substances (e.g. formaldehyde and arylamine) are also considered to be constituent substances.*

Contaminants: *residual substances from production, including raw materials production, which are found in a raw material or the final chemical product, equivalent to concentrations ≤ 100 ppm ($\leq 0.01\%$ by weight, ≤ 100 mg/kg) in the chemical product. Examples of what are considered to be contaminants are residual concentrations of the following: reagents including monomers, catalysts, by-products, "scavengers" (i.e. chemicals used to eliminate/minimise adverse substances), cleaning agents for production equipment, and "carry-over" from other or previous production lines.*

Part A, requirements O19- O21 for all chemical products

O19 Chemical products, classification

Is the chemical product classified in accordance with the table below? ☐ Yes ☐ No

If yes, which classifications?

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
Acute toxicity	Acute Tox. 1, 2 Acute Tox. 3	H330, H310, H300 H331, H301, H311
Specific target organ toxicity	STOT SE 1 STOT RE 1	H370 H372
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

The classifications in the Table concern all classification variants. For example, H350 also covers classification H350i.

O20 CRM substances

O20 Does the product include substances, classified in accordance with below: The classifications in the Table concern all classification variants. For example, H350 also covers classification H350i.	Yes	No
Carc. 1A or 1B H350	<input type="checkbox"/>	<input type="checkbox"/>
Carc. 2 H351	<input type="checkbox"/>	<input type="checkbox"/>
Muta. 1A or 1B H340	<input type="checkbox"/>	<input type="checkbox"/>
Muta. 2 H341	<input type="checkbox"/>	<input type="checkbox"/>
Repr. 1A or 1B H360	<input type="checkbox"/>	<input type="checkbox"/>
Repr 2 H361	<input type="checkbox"/>	<input type="checkbox"/>
H362 (Reprotoxic, effects on or via breastfeeding, supplementary category)	<input type="checkbox"/>	<input type="checkbox"/>

O21 Other substances excluded from use

O21: Do any of the following substances include in the product? Ingår något av följande ämnen i produkten?	Yes	No
Substances on the EU Candidate list ,see the ECHAs website: http://echa.europa.eu/candidate-list-table)	<input type="checkbox"/>	<input type="checkbox"/>
Substances evaluated by the EU to be PBT (persistent, bioaccumulative and toxic) or vPvB substances (very persistent and very bioaccumulative), in accordance with the criteria in Appendix XIII of REACH and substances that have not yet been evaluated but which meet these criteria.	<input type="checkbox"/>	<input type="checkbox"/>
Substances considered to be potential endocrine disruptors in category 1 or 2 on the EU's priority list of substances that are to be investigated further for endocrine disruptive effects: http://ec.europa.eu/environment/chemicals/endocrine/strategy/being_en.htm	<input type="checkbox"/>	<input type="checkbox"/>
Phthalates. The prohibition does not include polyethylene terephthalate (PET).	<input type="checkbox"/>	<input type="checkbox"/>
Alkylphenol ethoxylates (APEO) and other alkylphenol derivatives (substances that release alkylphenols on degradation).	<input type="checkbox"/>	<input type="checkbox"/>
Halogenated organic compounds. An exceptions 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.	<input type="checkbox"/>	<input type="checkbox"/>
Butylhydroxytoluene BHT (cas 128-37-0)	<input type="checkbox"/>	<input type="checkbox"/>
Bisphenols A, bisphenol F and bisphenol S	<input type="checkbox"/>	<input type="checkbox"/>
Antibacterial agents (e.g. nanosilver). An antibacterial chemical is a chemical which prevents or stops the growth of microorganisms such as bacteria, mould or protozoa (unicellular organisms).	<input type="checkbox"/>	<input type="checkbox"/>

Part B Requirements specifically for certain types of chemicals

O13 Coatings and impregnations

O13 Coatings and impregnations	Yes	Nej
Is chromium included in the coating/covering/impregnation chemical?	<input type="checkbox"/>	<input type="checkbox"/>
Are fluorinated compounds included in the coating/covering/impregnation chemical?	<input type="checkbox"/>	<input type="checkbox"/>
O13 silicone treatment		
Is the product solvent-based?	<input type="checkbox"/>	<input type="checkbox"/>
Were organotin catalysts used in the production of silicone polymers?	<input type="checkbox"/>	<input type="checkbox"/>
Are octamethylcyclotetrasiloxane, D4, (CAS no. 556-67-2) and decamethylcyclopentasiloxane, D5, (CAS-no. 541-02-6) included? Contaminants of D4 and D5 included in the final commercial product in concentrations below 800 ppm (0.08% by weight, 800 mg/kg) are exempt from the requirement. The commercial product refers to the silicone emulsion's coating bath.	<input type="checkbox"/>	<input type="checkbox"/>

State volumes of D4:_____

State volumes of D5:_____

O22 Colourants for printing and dyeing

O22 Colourants for printing and dyeing	Yes	No
Do the colorants fulfil the recommendations of BfR (Federal Institute for Risk Assessment): "IX. Colorants for Plastics and other Polymers Used in Commodities"?	<input type="checkbox"/>	<input type="checkbox"/>
Halogenated organic pigments must fulfil the requirements in the Council of Europe's resolution: "Resolution AP (89) 1 on the use of colourants in plastic materials coming into contact with food". Are the requirements fulfilled?	<input type="checkbox"/>	<input type="checkbox"/>

O23 Adhesives - constituent substances

O23 Adhesives - constituent substances	Yes	No
Are ethylene glycol ethers included in the adhesives?	<input type="checkbox"/>	<input type="checkbox"/>
Is rosin resin included in the adhesives? The exception is modified rosin derivatives that are not classified as allergenic.	<input type="checkbox"/>	<input type="checkbox"/>
Is the content of formaldehyde generated during the production process maximum 250 ppm (0.0250% by weight) measured by newly produced polymer dispersion? Measured by the VdL-RL 03 method "In-can concentration of formaldehyde determined by the acetyl-acetone method" or the Merckoquant method (see Annex x to RAL-UZ 102), alternatively another equivalent method.	<input type="checkbox"/>	<input type="checkbox"/>

Enclose a test report for formaldehyde.

In the event of any change to the composition of the product, a new declaration of fulfilment of the requirements is to be submitted to Nordic Ecolabelling.

Place and date:	Company name/stamp:
Person responsible:	Signature of the person responsible (electronic signature is accepted):
Telephone:	E-mail:

Appendix 6 Guidelines for standards, vegetable raw material

Nordic Ecolabelling sets requirements of the standards under which sustainably cultivated vegetable raw materials are to be certified. The criteria are described below. Each individual national sustainability standard and each certification system is reviewed by Nordic Ecolabelling to ensure that all of the criteria are met.

Criteria for standards

- The standard will balance financial, ecological and social interests and comply with the UN's Rio document Agenda 21 and the forestry principles and respect relevant international conventions and agreements.
- The standard must contain absolute requirements and must promote and contribute to sustainable cultivation. Nordic Ecolabelling gives particular emphasis to the standard having effective requirements and that the absolute requirements protect the ecosystem's biodiversity from illegal felling and that the absolute requirements protect the biodiversity of the forest's ecosystem.
- The standard must be public. It must be drawn up in an open, fair process in which environmental, economic and social stakeholders have been invited to take part.

The requirements of the sustainability standard are worded as process requirements, in which the starting point is that if the economic, social and environmental stakeholders in a process are in agreement on a standard, an acceptable level for the standard is assured.

If a sustainability standard is developed or accepted by economic, organic and social stakeholders, it is likely that the standard maintains a good level of requirements. For this reason, it is a requirement that the standard balances the three stakeholder groups and that all stakeholder groups must have been invited to be involved in developing the sustainability standard.

The standard must include absolute requirements that must be met before the forest is certified. This ensures that the forestry/agriculture concerned maintains its environmental work at an acceptable level. When Nordic Ecolabelling requires that the standard promotes and contributes to sustainable forestry/agriculture, it is required that the standard is evaluated and revised on a regular basis so that the process is developed and the environmental impact is reduced on an ongoing basis.

Criteria for certification system

- The certification system must be open, have major national or international credibility and be able to verify that the requirements of the sustainability standard are met.

Criteria for certification bodies

- The certification body must be impartial and trustworthy and must be able to control that the requirements of the standard are fulfilled. The

certification body must also be able to communicate the results and be capable of efficiently implementing the standard.

- Certification must be carried out by an accredited competent third party. The purpose of certification is to quality assure that the requirements in the sustainability standard are fulfilled.
- The certification system must be suitable to verify that the requirements of the sustainability standard are fulfilled. The method used in certification must be replicable and usable for forestry/agriculture and certification must take place in relation to a specific sustainability standard. Control of the standard in the area must take place before the certificate is issued.

Requirement regarding CoC (Chain of Custody) certification

- Chain of Custody certification is to be carried out by an accredited competent third party.
- The system must set requirements for the CoC chain guaranteeing traceability, documentation and control throughout the supply chain.

Documentation

- Copy of the agriculture standard, the name address and phone number of the organisation which drew up the standard, and the final report of the certification body.
- Reference must be made to the persons who represent the parties and interest groups invited to participate in developing the forestry/agriculture standard.

Nordic Ecolabelling is entitled to require further documentation to review whether the requirements of standards and the certification system are fulfilled.

Appendix 7 Declaration Plastics

Declaration for requirements O17 and O18.

To be completed by the producer of polymer/plastic material.

Name of the plastic material and type of polymer:

Name of the polymer/plastic producer: _____

O17 Additives in plastic

Are chemicals such as dyes, plasticisers, antioxidants and fillers (inorganic fillers are exempt) added to the polymer/plastic material? Were additives to plastic used, such as stabilisers, antioxidants, plasticisers, dyes/pigments and fillers (inorganic fillers are exempted)? ☐ Yes ☐ No

If yes, additives to the polymer/plastic material must fulfil the chemical requirements O19, O20 and O21.

- Use Appendix 5. Also enclose the safety data sheet for the chemical product, in accordance with applicable European legislation.

O18 Residual monomers in polymer

O22 Does the polymer include maximum 100 ppm residual monomers, classified in accordance with table S6 below:	Yes	No
Carc. 1A or 1B H350	<input type="checkbox"/>	<input type="checkbox"/>
Carc. 2 H351	<input type="checkbox"/>	<input type="checkbox"/>
Muta. 1A or 1B H340	<input type="checkbox"/>	<input type="checkbox"/>
Muta. 2 H341	<input type="checkbox"/>	<input type="checkbox"/>
Repr. 1A or 1B H360	<input type="checkbox"/>	<input type="checkbox"/>
Repr 2 H361	<input type="checkbox"/>	<input type="checkbox"/>
H362 (Reprotoxic, effects on or via breastfeeding, supplementary category)	<input type="checkbox"/>	<input type="checkbox"/>

The volume may be maximum 100 ppm for each polymer.

Residual monomers must be measured for newly produced polymer.

Place and date:	Company name/stamp:
Person responsible:	Signature of the person responsible (electronic signature is accepted):
Telephone:	E-mail:

Appendix 8 Analysis laboratory

Requirement of the analysis laboratory

The analysis laboratory must fulfil the general requirements under standard EN ISO 17025 or be an official GLP-approved analysis laboratory.

The applicant's own analysis laboratory/test procedure may be approved for analysis and testing if:

- the authorities monitor the sampling and analysis process, or if
- the manufacturer has a quality management system encompassing testing and analysis and has been certified in accordance with ISO 9001, or if
- the manufacturer can demonstrate agreement between a first-time test conducted in parallel at an independent test institute and the manufacturer's own laboratory, and that the manufacturer takes samples according to a fixed sampling plan.