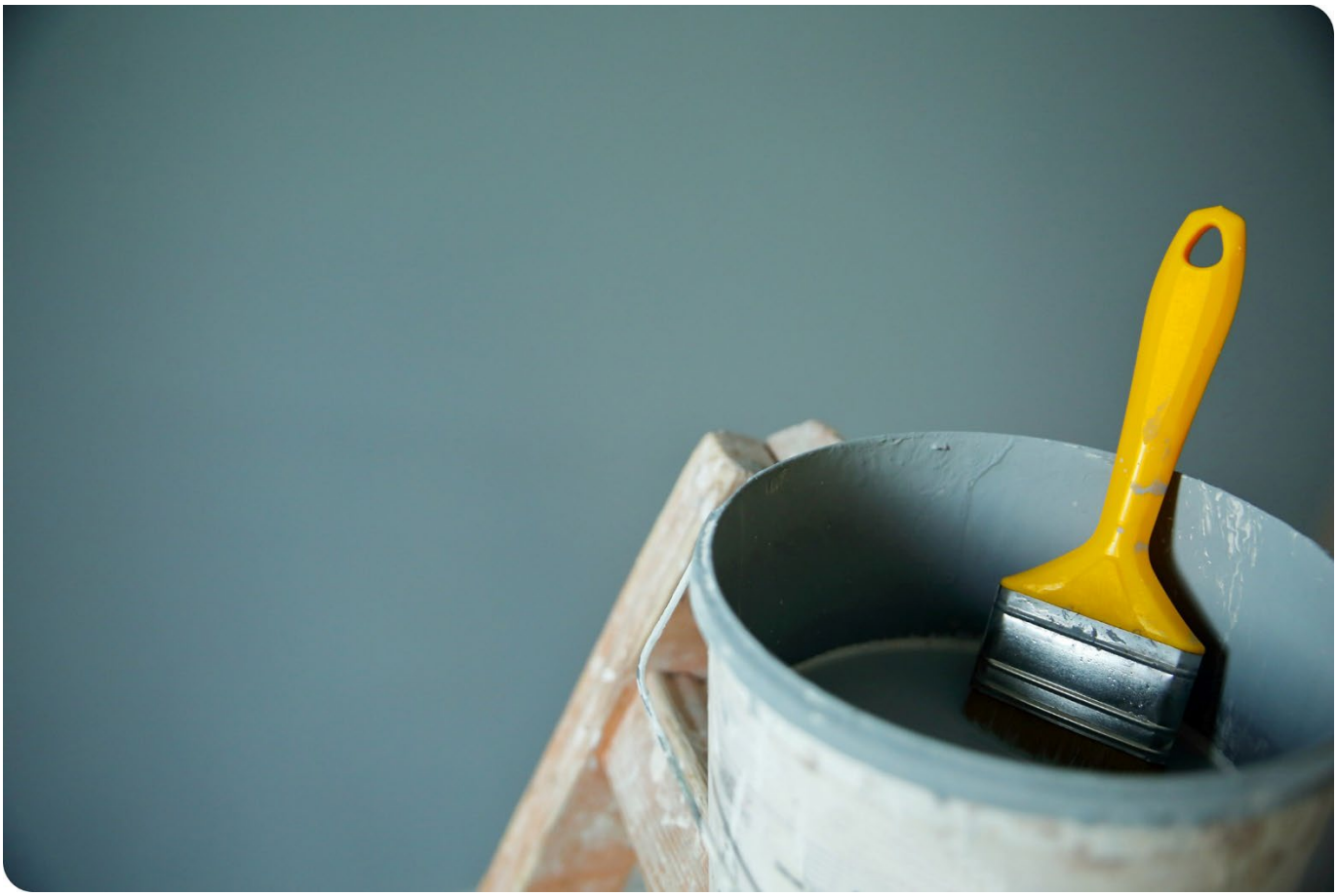
Nordic Ecolabelling for

Paints and varnishes



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Nordic Ecolabelling

Content

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Contact information

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 paint or varnish?

A Nordic Swan Ecolabelled paint or varnish have reduced environmental impact throughout its lifecycle. By meeting strict requirements for chemicals, quality and raw materials, the product group is a better choice for the environment, the climate, and the users.

With long shelf lives and strict quality requirements, Nordic Ecolabel requirements for paints or varnishes help reduce resource use. The requirements further promote circular economy and reduces the climate impact of paints and varnishes.

Nordic Swan Ecolabelled paint or varnish:

- Meet strict quality requirements to promote long-lasting, durable, and efficient paints and varnishes which leads to less use of resources in a lifecycle perspective.
- Meet strict requirements regarding environmentally hazardous chemicals.
- Meet strict health requirements for chemicals, such as strict requirements to substances that can cause cancer, damage genes or reproductive capacity.
- Is free from phthalates, fluorinated substances and identified and potential endocrine disruptors on current lists from EU and national authorities.
- Meet strict requirements for emissions of harmful substances. This is positive for the indoor environment.
- Meet requirements for the manufacturing of raw materials with high climate impact such as titanium dioxide and cement/hydraulic binders.
- Has packaging that includes recycled material - which contributes to a circular economy.
- Ensures that if renewable raw materials are used, they originate from more sustainably produced and controlled sources.

Why choose the Nordic Swan Ecolabel?

- The licensee 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 indoor and outdoor paints and varnishes 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 of paints and varnishes shall comprise of indoor and outdoor paints and varnishes as stated below:

- Paints and varnishes, wood stains and related products, which, for decorative, functional, and protective purposes, are applied to buildings, their decorations and fixed furnishings as well as associated structures and are intended for use by consumers and professionals. The product should belong to one of the subcategories (see table 1) found in Annex I of Directive 2004/42/EC[1] ("the paint directive").
- Paints and varnishes that have been tinted by the distributor at the request of consumers or professional decorators and tinting systems, decorative paints and varnishes in liquid, paste or powder formulas which may have been pre-conditioned or prepared by the manufacturer to meet consumer's needs.

  In addition, the following categories are within the scope of the criteria:

- Industrial paints and varnishes used and manufactured for industrial applications, for example painting furniture/panels for indoor and outdoor use.
- Anti-corrosion paint for industry and infrastructure.
- Wood oils (film forming and non-film forming).

The product group shall <u>not</u> comprise of the following products:

- Anti-fouling coatings

- Preservation products for wood impregnation (PT-8 of BPR, Regulation (EU) 528/2012)

- Paints primarily intended for vehicles

1 Directive 2004/42/CE https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32004L0042

- Fillers as defined by EN ISO 4618
- Road-marking paints

Table 1 Appendix I Directive 2004/42/CE

	Product classification, cf. 2004/42/EC
a	Matt coatings for interior walls and ceilings (Gloss < 25@60°)
b	Glossy coatings for interior walls and ceilings (Gloss > 25@60°)
c	Coatings for Exterior walls of mineral substrate
d	Interior/Exterior trim and cladding paints for wood and metal including undercoats
e	Interior trim varnishes and woodstains, including opaque woodstains
	Exterior trim varnishes and woodstains, including opaque woodstains
f	Interior and exterior minimal build woodstains
g	Primers
h	Binding primers
i	One-pack performance coatings
j	Two-pack reactive performance coatings for specific end use such as floors
l	Decorative effect coatings

How to apply

Application and costs

For information about the application process and fees for this product group, please refer to the respective national web site. Find contact information in the beginning of this document.

What is required?

The application consists of a 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.

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

Upload

State data in electronic application

Requirement checked on site

To be awarded a Nordic Swan Ecolabel licence:

- All obligatory requirements must be fulfilled.
- Nordic Ecolabelling must inspect the 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.

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 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. Find contact information in the beginning of this document. Further information and assistance (such as calculation sheets or electronic application help) may be available. Visit the relevant national website for further information.

1 Definitions

For the purpose of this document, the following definitions shall apply, partly from EN ISO 4618 and partly from article 2 in the EU-Ecolabel(2014/312/EU)[2].

Table 2

Definition	Description
Paint	Pigmented coating material, supplied in a liquid, paste or powder form, which, when applied to a substrate, forms an opaque dried film having protective, decorative or specific technical properties and after application dries to a solid, adherent, and protective coating.
Varnish	Coating material which when applied to a substrate forms a solid transparent film having protective, decorative or specific technical properties.
Ingoing substances	All substances in the Nordic Swan Ecolabelled product regardless of amount, including additives (e.g., preservatives and stabilizers) in the raw materials. Substances known to be released from ingoing substances (e.g., formaldehyde, arylamine, in situ-generated preservatives) are also regarded as ingoing substances.
Impurities	Residuals, pollutants, contaminants etc. from production, incl. production of raw materials, that remain in the Nordic Swan Ecolabelled product in concentrations less than 100 ppm (0.0100%). Impurities in the raw materials exceeding concentrations of 10 000 ppm (1.0000%) are always regarded as ingoing substances, regardless of the concentration in the Nordic Swan Ecolabelled product. Examples of impurities are residues of the following: residues or reagents incl. residues of monomers, catalysts, by-products, scavengers, and detergents for production equipment and carry-over from other or previous production lines. The impurity limit of 100 ppm (0.0100%) applies to each individual substance that is excluded, i.e., Impurities with the same classification in different raw materials shall not be summed up to comply with the limit. The same contaminants in different raw materials also do not need to be summed.
Wood preservative	Product containing a biocide with primary purpose intended to inhibit the development of wood-destroying and/or wood-staining organisms in the wood to which it is applied.
Wood stain	Penetrating composition containing a dyestuff that changes the colour of a wood surface, usually transparent and leaving no surface film, the solvent which may be oil, denaturized alcohol, or water.
Lasure	Coating material, solvent- or water-based, containing small amounts of a suitable pigment and/or extender and used to form a transparent or semi-transparent film for decoration and/or protection of the substrate.
Powder coating	Coating material in powder form which, after fusing and possibly curing, gives a continuous film.
Tinting system	Method for preparing coloured paints by mixing a base with coloured tints.
Masonry coating	Coating material that produces a decorative and protective film for use on concrete, paintable brickwork, blockwork, rendering, calcium silicate board or fibre-reinforced cement.

2 https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32021D1871&qid=1665411241922

Binding primers	Coating designed to stabilise loose substrate particles or impact hydrophobic properties.
UV curable paint system	Hardening of coating material by exposure to artificial ultra-violet radiation.
Alkyd resin (binder)	Synthetic resin resulting from the polycondensation of fatty acids (or oils) and carbonic acids with polyols.
Acrylic resin (binder)	Synthetic resin resulting from the polymerization or copolymerization of acrylic and/or methacrylic monomers, frequently together with other monomers.
Hydraulic binder	Materials that hardens when mixed with water by means of hydration reactions.
Anti-foaming agent	Additive that prevents foaming or reduces the foaming tendency of a coating material.
Anti-skinning agent	Additive that is added to the coating material to prevent skinning during production or storage of the coating material.
Preservative / Biocide	Additive added to a coating material to prevent organisms responsible for microbiological degradation from attacking a substrate, a coating material, or a film thereof.
In-can preservatives	Biocide used to prevent growth of microorganisms during storage of a water-based coating material or stock solution. Active substances within the meaning of Article 3(1)(c) of Regulation (EU) No 528/2012 of the European Parliament and of the Council (the "Biocide Regulation"), intended for use in Product Type 6 (PT 6) as described in Annex V to that Regulation.
Dry-film preservatives	Products used for the preservation of films or coatings by the control of microbial deterioration or algal growth in order to protect the initial properties of the surface of materials or objects. Active substances within the meaning of Article 3(1)(c) of Regulation (EU) No 528/2012 (the "Biocide Regulation"), intended for use in Product Type 7 (PT 7) as described in Annex V to that Regulation
Phthalates	Esters of phthalic acid orthophthalic acid / phthalic acid /1,2- benzene dicarboxylic acid).
White and light coloured	Paints are those with a tri-stimulus (Y-value) > 70%.
Gloss paints	Are those which at an angle of incidence of 60° show a reflectance of ≥ 60.
Mid sheen paints	(Also referred to as semi-gloss, satin, semi matt) are those which at an angle of incidence of 60° or at 85° show a reflectance of < 60 and ≥ 10.
Matt paints	Are those which at an angle of incidence of 85° show a reflectance of < 10.
Dead matt paints	Are those which at an angle of incidence of 85° show a reflectance of < 5.
Transparent	And ‘semi-transparent’ means a film with a contrast ratio of < 98% at 120µ wet film thickness.
Opaque	Means a film with a contrast ratio of > 98% at 120µ wet film thickness.
Spreading rate	Surface area that can be covered by a given quantity of coating material to give a dried film of requisite thickness.
Blistering	Convex deformation in a film, arising from local detachment of one or more of the constituent coats.
Cracking	Rupturing of a dry film or coat.
Chalking	Appearance of a loosely adherent powder on the surface of a film or coat arising from the degradation of one or more of its constituents.

Flaking	Detachment of small parts of a coating due to loss of adhesion.
Nanomaterial	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. In the determination of the particle number-based size distribution, particles with at least two orthogonal external dimensions larger than 100 µm need not be considered. However, a material with a specific surface area by volume of < 6 m^2/cm^3 shall not be considered a nanomaterial.
Volatile organic compound (VOC)	Any organic compound having an initial boiling point less than or equal to 250°C measured at a standard pressure of 101,3 kPa as defined in Directive 2004/42/EC and which, in a capillary column, are eluting up to and including n-Tetradecane ($C_{14}H_{30}$).
Semi volatile organic compound (SVOC)	Any organic compound having a boiling point greater than 250 °C and less than 370 °C measured at a standard pressure of 101,3 kPa and which, in a capillary column are eluting with a retention range after n-Tetradecane (C14H30) and up to and including n-Docosane ($C_{22}H_{46}$).
The paints directive	European Parliament and Council Directive 2004/42/EC.
Level of traceability:	
Identity preserved	Certified product(s) from a certified site is kept separate from other sources throughout supply chain.
Segregated	Certified product from different certified sources is kept physically separate from non-certified product through each stage of the supply chain.
Mass balance	Certified physical product is not separated from and may be mixed with non-certified physical product at any stage in the production process, provided that the quantities are controlled.
Book & Claim	Certified products are completely decoupled from sustainability data.

1.1 General requirements

O1 Information about the product

The applicant must give detailed information on the product to which the application relates. The following information is required:

- Describe the product and its application method with subcategory denotation according to Directive 2004/42/EC or the relevant description from definitions of the product group.

- If the product forms part of a component system that jointly ensures the functioning of the product, the entire product must be Nordic Swan Ecolabelled and not simply parts of it (e.g., a tinting system comprising a base and coloured tints or two-component varnishes comprising a base and a hardener). The requirement thus refers to the individual product and not to products in the same range (a range is here e.g., systems for exterior painting comprising primer, undercoat, and paint).
- Formulation detailing complete composition with a specification of all ingoing substances (see definition of raw materials and ingoing substances in Chapter 1). The description must include:
    - The trade name of each raw material
    - The function of each raw material in the final product
    - The chemical name and CAS no. (if possible) of the ingoing substances
    - Content in % per ingoing substance in the product
    - Specification for preservatives, e.g., "in-can" (PT 6) or preservative for dry-film coatings (PT 7)
    - Type of binder

✉ Description of the product in accordance with the definition of what may be Nordic Swan Ecolabelled, e.g., label and product data sheet (if available).

✉ Description of how the product is to be used to achieve functionality (e.g., as a single component, tinting system or multi-component system) and which application method it is intended for.

✉ Formulation detailing complete composition with a specification of all raw materials and ingoing substances, as set out in Appendix 3.

✉ Safety data sheets for each raw material in line with prevailing European legislation (Annex II to REACH Regulation, 1907/2006/EC).

1.2 Chemical requirements

The requirements in the criteria document and accompanying appendices apply to all ingoing substances in the Nordic Swan Ecolabelled product. Impurities are not regarded as ingoing substances and are exempt from the requirements. Ingoing substances and impurities are defined in chapter 1 Definitions, unless stated otherwise in the requirements.

O2 Classification of the product

The final product must not be classified and labelled according to Table 3. Note that the responsibility for correct classification lies with the manufacturer.

Table 3 Classification of chemical products CLP Regulation 1272/2008

Classification	Hazard class and category	Hazard code
Hazardous to the aquatic environment	Aquatic Acute 1 Aquatic Chronic 1 Aquatic Chronic 2 Aquatic Chronic 3 Aquatic Chronic 4	H400 H410 H411 H412 H413
Hazardous to the ozone layer	Ozone	H420
Acute toxicity	Acute Tox. 1 or 2 Acute Tox. 1 or 2 Acute Tox. 1 or 2	H300 H310 H330

Classification	Hazard class and category	Hazard code
	Acute Tox. 3 Acute Tox. 3 Acute Tox. 3 Acute Tox. 4 Acute Tox. 4 Acute Tox. 4	H301 H311 H331 H302 H312 H332
Specific target organ toxicity: single or repeated exposure	STOT SE 1 or 2 STOT SE 1 or 2 STOT RE 1 or 2 STOT RE 1 or 2	H370 H371 H372 H373
Skin corrosion/irritation	Skin Corr. 1A, 1B or 1C	H314
Aspiration hazard	Asp. Tox. 1	H304
Skin sensitisation	Skin Sens. 1, 1A or 1B	H317
Respiratory sensitisation	Resp. Sens. 1, 1A or 1B	H334
Carcinogenicity*	Carc. 1A or 1B Carc. 2	H350 H351
Germ cell mutagenicity*	Muta. 1A or 1B Muta. 2	H340 H341
Reproductive toxicity*	Repr. 1A or 1B Repr. 2 Lact.	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
Explosives	Unst. Expl. Expl. 1.1 Expl. 1.2 Expl. 1.3 Expl. 1.4 Expl. 1.5 Expl. 1.6	H200 H201 H202 H203 H204 H205 H206
Oxidizing liquids and solids	Ox. Liq. 1 to 3 Ox. Sol. 1 to 3	H271 H272
Organic peroxides and self-reactive substances and mixtures	Org. Perox. A to EF Org. Perox. A to EF Org. Perox. A to EF	H240 H241 H242
Extremely flammable aerosol and liquids	Aerosol 1 Flam. Liq. 1	H222 H224

** The classifications concern all classification variants. For example, H350 also covers classification H350i.*

*** See also O12 for additional criteria for potential or identified endocrine disruptors and PBT/vPvB substances.*

Exemptions:

- Outdoor paints and varnishes and industrial paints and varnishes with classification H317 if the classification depends on the content of preservatives approved in PT 7 of Regulation (EU) No. 528/2012.

- Outdoor paints and varnishes and industrial paints and varnishes with classification H412 if the classification depends on the content of preservatives approved in PT 6 and PT 7.
- Anti-corrosion paints for industry and infrastructure with classifications H400, H410 and H411 if the classification is due to zinc and zinc compounds.

✉ Safety data sheet in accordance with Annex II of REACH (Regulation 1907/2006) for each product in the application.

O3 Classification of ingoing substances

The final product must not contain ingoing substances that are classified according to the Table 4.

Table 4 Classification of ingoing substances CLP Regulation 1272/2008

Classification	Hazard class and category	Hazard code
Carcinogenicity*	Carc. 1A or 1B Carc. 2	H350 H351
Germ cell mutagenicity*	Muta. 1A or 1B Muta. 2	H340 H341
Reproductive toxicity*	Repr. 1A or 1B Repr. 2 Lact.	H360 H361 H362
Respiratory sensitisation	Resp. Sens. 1, 1A or 1B	H334
Specific target organ toxicity: single exposure or repeated exposure	STOT SE 1 STOT RE 1	H370 H372
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

** The classifications concern all classification variants. For example, H350 also covers classification H350i.*

*** See also O12 for additional criteria for potential or identified endocrine disruptors and PBT/vPvB substances.*

Exemptions:

- Preservatives classified as H370 and H372.
- Respirable crystalline silica/quartz classified as H372/H350i with a maximum content of 1% in raw materials, see separate requirement O10.
- Glyoxal (CAS no. 107-22-2) if the pH in the final product is above 7.5.
- Trimethylolpropane (TMP) (CAS no. 77-99-6), maximum content of 1% in pigments. Time-limited exemption valid until 2027-05-31.
- Titanium dioxide (CAS no. 13463-67-7), see separate requirement O9.
- Bisphenol A (CAS no. 80-05-7) up to 5 ppm in the final epoxy paint.
- If the classification is due to monomers in polymers, please see requirement O7.

✉ Declaration in line with Appendix 1 from the manufacturer of the product and Appendix 2 from the manufacturer of each raw material. Documentation of exemptions for each substance is done in Appendix 1 and 2, together with a statement as to why the substance is present in the product/raw material and other documentation if appropriate.

✉ Safety data sheet for all raw materials in line with Annex II to REACH (Regulation (EC) No 1907/2006).

O4 Environmentally harmful substances

Ingoing substances classified as environmentally harmful with hazard phrases H410, H411 and/or H412, according to CLP Regulation (1272/2008), are limited in the product according to the following formulas.

Indoor wall and ceiling paints:

M*100*H410 + 10*H411 + H412 ≤ 6%

All other products:

M*100*H410 + 10*H411 + H412 ≤ 8%

Where M is the multiplying factor for H410 as stated in CLP.

H410 is the concentration of substances classified with H410 in percent

H411 is the concentration of substances classified with H411 in percent

H412 is the concentration of substances classified with H412 in percent

If information about a substance's harmfulness to the environment (in the form of data concerning toxicity and degradability or toxicity and bioaccumulation) is not available, the substance is treated as environmentally harmful – H410, and multiplication factor 100.

For tinting systems, a worst-case calculation is done with the colour with most tinting paste and the base paint with most environmentally hazardous substances.

Exemptions:

- Preservatives are exempted from the requirement, however, requirement O2 and O5 must still be fulfilled.
- Zinc oxide (CAS no. 1314-13-2) is exempted up to 2500 ppm (0.25%) in the final product. If the product contains 0.5% Zinc oxide, then 0.25% must be included in the calculation.
- Zinc and zinc compounds in anti-corrosion paints for industry and infrastructure.

✉ Declaration in line with Appendix 1 from the manufacturer of the product and Appendix 2 from the manufacturer of each raw material.

✉ Safety data sheet for all constituent substances in line with Annex II to REACH (Regulation (EC) No 1907/2006).

✉ Calculation clearly showing that the requirement is fulfilled.

O5 Preservatives

Only preservatives compliant with product-type 6 and product-type 7 according to Regulation (EU)528/2012 (The Biocidal Products Regulation) can be used.

The amount of preservative/combination of preservatives is limited in the final product including tinting paste according to the tables 5 and 6. See also

limitations in requirements O2 and O3. The amount of preservatives must not exceed the maximum theoretical amount at the time of the production.

For tinting systems, a worst-case calculation or analysis must be performed for the colour with most tinting paste and the base paint with highest content of preservative and isothiazolinone compounds.

Note that Dithio-2,2'-bis-benzmethylamide (DTBMA, CAS no. 2527-58-4) is to be included in the total amount of isothiazolinones.

Note that 2-cyanoacetamide (DBNPA, CAS no. 10222-01-2) is to be excluded from the calculation of total preservatives.

The amount of preservatives may be reported in one of the following ways:

- The maximum theoretical amount of preservative must not exceed the limit values in Table 5 at the time of manufacturing. The limit value is stated in the tables below and the amount must be calculated based on added preservatives and the maximum amount in the raw materials.

  or

- Alternatively, the amount of preservatives can be measured analytically by high-performance liquid chromatography (HPLC) or similar methods and shall be based on the maximum amount in the final paint. The measurement is made on the finished product before it is sealed or the constituent raw materials that contain biocides.

Table 5 Concentration limits for preservatives in indoor paints and varnishes in the final product.

Product type	Isothiazolinones***	Preservatives total
Indoor paints and varnishes*	500 ppm (0.0500%)	900 ppm (0.0900%)
Wet room paints*)**	500 ppm (0.0500%)	1600 ppm (0.1600%)

* *Paints, varnishes, base paints with tinting paste etc.*

***Indoor paints intended for use in areas with high humidity, including kitchens and bathrooms.*

*** *All PT 6 isothiazolinones with a specific concentration limit (SCL) of 15 ppm or 360 ppm are limited to 15 ppm or 360 ppm each in the final product (each CLP Appendix VI entry calculated separately).*

If the SCL is changed in accordance with CLP Regulation 1272/2008 Annex VI for other PT 6 isothiazolinones, they and their limit values will also be changed and added accordingly.

Table 6 Concentration limits for preservatives in indoor/outdoor industrial paints and varnishes and outdoor paints and varnishes.

Product type	Isothiazolinones*	Preservatives total
Indoor industrial paint and varnish, incl. wood oils	500 ppm (0.0500%)	1500 ppm (0.1500%)
Outdoor industrial paint and varnish, incl. wood oils	1500 ppm (0.1500%)	5000 ppm (0.5000%)
Outdoor paint and varnish	1500 ppm (0.1500%)	5000 ppm (0.5000%)
Anti-corrosion paint for industry and infrastructure	100 ppm (0.0100%)	200 ppm (0.0200%)

* *All PT 6 isothiazolinones with a SCL of 15 ppm or 360 ppm are limited to 15 ppm or 360 ppm in the final product (each CLP Appendix VI entry calculated separately).*

If the SCL is changed in accordance with CLP Regulation 1272/2008 Annex VI for other PT-6 isothiazolinones, they and their limit values will also be changed and added accordingly.

✉ Declaration in line with Appendix 1 from the manufacturer of the product and Appendix 2 from the manufacturer of each raw material.

✉ Test report of results from analysis by HPLC or similar method showing that the requirement concerning preservatives is fulfilled.

✉ Documentation showing that the test laboratory fulfils the requirement in Appendix 4.

✉ Calculation clearly showing that the requirement concerning preservatives is fulfilled.

O6 Formaldehyde

Indoor paints and varnishes:

- The level of free formaldehyde in the final product must not exceed 25 ppm (0.0025 w%, 25 mg/kg) measured by HPLC, the Merckoquant method or similar methods.
- The emissions of formaldehyde of the final product after 28 days must not exceed 0.06 mg/m^3 measured in the air of a test chamber according to EN 16516.

All other products:

- The level of free formaldehyde in the final product must not exceed 25 ppm (0.0025 w%, 25 mg/kg) measured by HPLC, the Merckoquant method or similar methods.

For tinting systems, the colour with the tinting paste and the base paint predicted to contain the highest theoretical amount of formaldehyde (worst case) shall also be determined and measured.

✉ Declaration in line with Appendix 1 from the manufacturer of the product and Appendix 2 from the manufacturer of each raw material.

✉ Test report according to EN 16516, HPLC, Merckoquant method or other equivalent test method for the products showing that requirement is met.

✉ Documentation showing that the test laboratory fulfils the requirement in Appendix 4.

O7 Residual monomers in polymers

For each polymer present in the product >1 w% the quantity of residual monomers* and its classifications must be stated. There cannot be more than 100 ppm (0.0100 w%, 100 mg/kg) of the residual monomer in the polymer of each classification in Table 7.

* *Residual monomers in newly produced polymers and based on the content in the raw material.*

For tinting systems, a worst-case calculation is done with the colour with the most tinting paste and the base paint with most residual monomers.

Table 7 Classification according to CLP Regulation 1272/2008

Classification	Hazard class and category	Hazard code
Carcinogenicity	Carc. 1A or 1B Carc. 2	H350, H350i H351
Mutagenic	Muta. 1A or 1B Muta. 2	H340 H341
Germ cell mutagenicity	Repr. 1A or 1B Repr. 2 Lact.	H360 H361 H362
Respiratory sensitisation	Resp. Sens. 1, 1A or 1B	H334
Specific target organ toxicity: single exposure or repeated exposure	STOT SE 1 or 2 STOT SE 1 or 2 STOT RE 1 or 2 STOT RE 1 or 2	H370 H371 H372 H373

Exemptions:

- Vinyl acetate (CAS no. 108-05-4) as residual monomer in polymers up to 700 ppm.

✉ Declaration in line with Appendix 1 from the manufacturer of the product and Appendix 2 from the manufacturer of each raw material.

✉ If vinyl acetate (CAS no. 108-05-4) is present in an amount over 100 ppm, please also state the amount in ppm in each polymer.

O8 Heavy metals

The following heavy metals or heavy metal compounds must not be present in the product or in its raw materials. Traces of the following metals from residuals can be included up to 100 ppm (100 mg/kg, 0.0100 w%) per single metal in the raw material.

- Cadmium
- Lead
- Chromium VI
- Mercury
- Arsenic
- Barium
- Selenium
- Antimony

Exemptions:

- Barium sulphate and other equally insoluble barium compounds.
- Antimony in pigments contained in a TiO_2 rutile lattice on the following terms: test results must prove that the molecular structure is inert, and that the environmental and health effects of the pigment are on the same level as, or better than, the results for C.I Pigment Brown 24 CAS no. 68186-90-3 and C.I Pigment Yellow 53 CAS no. 8007-18-9 in the report: UNEF Publications, OECD SIDS Initial Assessment Profile (www.inchem.org).

✉ Declaration in line with Appendix 1 from the manufacturer of the product and Appendix 2 from the manufacturer of each raw material.

☒ For pigment that contains antimony integrated into a TiO_2 rutile lattice, documentation must be submitted to show that the molecular structure is inert, and that the environmental and health effects of the pigment are on the same level as, or better than, the results for C.I Pigment Brown 24 CAS no. 68186-90-3 and C.I Pigment Yellow 53 CAS no. 8007-18-9 in the report: UNEF Publications, OECD SIDS Initial Assessment Profile (www.inchem.org).

☒ For antimony in pigments that are exempted by the above terms, please attach test according to test method DIN 53770-1 or equivalent, showing that terms are fulfilled).

O9 Titanium dioxide

If the product contains more than 3.0 w% of titanium dioxide (TiO_2) (CAS no. 13463-67-7), the following requirements apply for energy consumption, emissions and residual waste and occupational exposure:

- Energy consumption:

Full or pending implementation of an energy management system for the manufacturing plant in accordance with ISO 50001.

- Emissions and residual waste:

Emissions from the production of TiO_2 shall not exceed the values given in Table 8 and 9 the sulphate process and the chloride process, respectively.[3]

Table 8 Emission limits from the production of TiO_2 using the sulphate process.

Sulphate process	Limit
SOx expressed as SO_2:	7.0 kg/tonne TiO_2
Sulphate waste:	500 kg/tonne TiO_2

Table 9 Emission limits from the production of TiO_2 using the chloride process.

Chloride process	Limit
When using natural ore:	103 kg chloride waste/tonne TiO_2
When using synthetic ore:	179 kg chloride waste/tonne TiO_2
When using slag ore:	329 kg chloride was/tonne TiO_2

If more than one type of ore is used, the values apply proportionately to the ore type used.

- Occupational exposure:

The raw material manufacturer must meet the requirements for powder handling according to O10.

☒ Declaration in line with Appendix 1 from the manufacturer of the product and Appendix 2 from the manufacturer of each raw material.

☒ ISO 50 001 certificate for the manufacturing plant or documentation showing pending implementation.

☒ A description and calculation from the titanium dioxide-manufacturer showing that the requirement for emissions is fulfilled.

☒ The raw material manufacturer must submit a description of how powdered raw materials are handled during the production process in accordance with O10.

3 Derived from the Best Available Techniques for the Production of Basic Inorganic Chemicals (BREF) (August 2007).

O10 Powdered raw materials

Raw materials in powder form must be added in a closed system, in a suspension or by means of a method that promotes a “low-dust” working environment e.g., using protective equipment which heavily reduce the dust or completely remove the dust from the raw materials (e.g., exhaust ventilation, personal protective equipment and clear safety instructions).

✉ Description of how powdered raw materials are handled during the production process for paints and varnishes.

O11 Nanomaterials/-particles

Nanomaterials/-particles must not be added or be present in the product.

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.

Exemptions:

- Pigments. Please note that Nano-TiO_2 is not considered a pigment.
- Naturally occurring inorganic fillers in accordance with annex V point 7 in REACH.
- Synthetic amorphous silica (SAS). This exemption applies to non-modified SAS. Chemically modified colloidal silica can be included in the products if the silica particles form aggregates in the final product. Any surface treatment of nanoparticles must fulfil requirement O3 (Classification of constituent chemical substances) and requirement O12 (Prohibited substances).
- Unmodified calcium carbonate (grounded calcium carbonate, GCC) and unmodified precipitated calcium carbonate (PCC).
- Polymer dispersions.

✉ Declaration in line with Appendix 1 from the manufacturer of the product and Appendix 2 from the manufacturer of each raw material.

O12 Prohibited substances

The product must not contain ingoing substances that are:

- Substances on the REACH Candidate list of SVHC.
- Substances evaluated by the EU to be Persistent, Bioaccumulative, and Toxic (PBT) or very Persistent and very Bioaccumulative (vPvB), in accordance with the criteria in Annex XIII of REACH and substances that have not yet been investigated, but which meet these criteria.
- Endocrine disruptors: Substances on the EU member state initiative "Endocrine Disruptor Lists", List I, II and III, see the following links:

- https://edlists.org/the-ed-lists/list-i-substances-identified-as-endocrine-disruptors-by-the-eu
- https://edlists.org/the-ed-lists/list-ii-substances-under-eu-investigation-endocrine-disruption

  2,2-dibromo-2-cyanoacetamide (DBNPA, CAS. No 10222-01-2) is exempted from the requirement.

  Butylated hydroxytoluene (BHT, CAS. no 128-37-0) is exempted up to 100 ppm in the final product.
- https://edlists.org/the-ed-lists/list-iii-substances-identified-as-endocrine-disruptors-by-participating-national-authorities

A substance which is transferred to one of the corresponding sublists called "Substances no longer on list", and no longer appears on any of List I-III, is no longer excluded. The exception is those substances on sublist II which were evaluated under a regulation or directive which doesn't have provisions for identifying EDs (e.g., the Cosmetics Regulation, etc.). For those substances, ED properties may still have been confirmed or suspected. Nordic Ecolabelling will evaluate the circumstances case-by-case, based on the background information indicated on sublist II."

- Organotin compounds.
- Phthalates *(*Definition of phthalates: *Esters of phthalic acid orthophthalic acid / phthalic acid /1,2- benzene dicarboxylic acid).*
- 34 bisphenols[4] that have been identified by ECHA for further EU regulatory risk management that are known or potential endocrine disruptors for the environment or for human health, or that can be identified as toxic for reproduction.
- Alkylphenols, alkylphenol ethoxylates (APEO) and other alkylphenol derivates (APD).
- Perfluorinated and polyfluorinated alkyl substances (PFAS).
- Halogenated organic compounds. Exemptions* for:
  - Preservatives that fulfil O5.
  - Paint pigments that meet the EU's requirement concerning colourants in food packaging under Resolution AP (89) point 2.5.
  - Driers in oxidative drying paints, see also O3 regarding classifications.

  * *Perfluorinated and polyfluorinated alkyl substances are covered by their own bulletin and are not included in this exemption.*
- Isocyanates. Exemption for water-borne polyisocyantates with a chain length of more than 10, where the concentration of isocyanates with a chain length of less than 10 as an impurity is documented.
- Fragrances.

✉ Declaration in line with Appendix 1 from the manufacturer of the product and Appendix 2 from the manufacturer of each raw material.

✉ If halogenated organic pigments are used, a declaration is required from the pigment supplier confirming that the pigment meets the EU's requirement concerning colourants in food packaging under Resolution AP (89) point 2.5.

4 Assessment of regulatory needs: Bisphenols. ECHA – 16 December 2021: Section 2.1: Bisphenols for which further EU RRM is proposed – restriction https://echa.europa.eu/documents/10162/c2a8b29d-0e2d-7df8-dac1-2433e2477b02

✉ If water-borne polyisocyanates with a chain length of more than 10, where the concentration of isocyanates with a chain length of less than 10 as an impurity are used, send documentation showing this.

O13 Emissions of Total Volatile Organic Compounds and Semi-Volatile Organic Compounds in indoor paints and varnishes

For Indoor paints and varnishes, the emissions of carcinogenic VOC and Total Volatile Organic Compounds (TVOCs) must not exceed limits given in Table 10. Emission of total Semi-Volatile Organic Compounds (TSVOCs) are not covered by a limit value but must be reported for the product.

Test method: Emission testing after 28-days according to EN 16516 or EN 16402 or other equivalent test methods.

For tinting systems, the emissions of TVOCs, SVOCs and carcinogenic VOC shall be determined for the colour with most tinting paste and the base paint with highest theoretical amount of TVOC and SVOC carcinogenic VOC from the contribution of raw materials.

The test laboratory must fulfil the requirements in Appendix 4.

Table 10 Emission limits for the final product for indoor paints and varnishes after 28 days

Product description (with subcategory denotation according to Directive 2004/42/EC)	1A and 1B carcinogenic VOC*	TVOC
a. b. d. e. f. g. h. i. j. l. All indoor products	≤ 0,001 mg/m^3	≤ 0,3 mg/m^3

* *Carcinogenic 1A and 1B VOCs listed in Annex H of EN 16516.*

✉ Test report in accordance with EN 16516, EN 16402 or other equivalent standardised test conditions and determination methods.

✉ Documentation showing that the test laboratory fulfils the requirements in Appendix 4.

O14 Content of Volatile and Semi-volatile Organic Compounds

For paints and varnishes the content of VOC and SVOC must not exceed the limits given in Table 11 and Table 12.

For tinting systems, the content of VOCs and SVOCs shall be determined for the colour with most tinting paste and the base paint with highest content of VOC and SVOC.

The VOC and SVOC content for paints and varnishes shall be determined either by testing the final product or by calculation based on the raw materials in accordance with test methods given in ISO 11890-2.

The test laboratory must fulfil the requirements in Appendix 4.

Products with the Nordic Swan Ecolabel may display the text ‘reduced VOC content’ and the VOC content in g/l next to the Ecolabel if they wish.

Table 11 VOC and SVOC content limits in its ready-to-use form paints and varnishes

Product description (with subcategory denotation according to Directive 2004/42/EC)	VOC limits (g/L ready to use)	SVOC limits (g/l ready to use)	
		White paints and varnishes	Tinted paints and varnishes
a. Interior matt walls and ceilings (Gloss < 25@60°)	10	30	40
b. Interior glossy walls and ceilings (Gloss > 25@60°)	40	30	40
c. Exterior walls of mineral substrate	25	40	
d. Interior/Exterior trim and cladding paints for wood and metal	80	50	60
e. Interior/Exterior trim varnishes and wood stains, including opaque wood stains	65	50	60
f. Interior and Exterior minimal build wood stains	50	30	40
g. Primers	15	30	40
h. Binding primers	15	30	40
i. On pack performance coatings	80	50	60
j. Two-pack reactive performance coatings for specific end use such as floors	65	50	60
l. Decorative effect coatings	80	50	60

Table 12 VOC content limits in its ready-to-use form for industrial paints

Industrial products falling under the scope of directive 2010/75/EU	VOC limits (g/L ready to use)
Industrial paints and varnishes for indoor use*	75
Industrial paints and varnishes for outdoor use*	75
Anti-corrosion paints	75

* Industrial powder paints and powder varnishes are exempted from the requirement.

✉ Declaration in line with Appendix 1 from the manufacturer of the product and Appendix 2 from the manufacturer of each raw material.

✉ Test report or calculation showing that the content level of VOC and SVOC in the final product in table 11 and table 12 is fulfilled, based on the test of the final product or on all ingoing raw materials using test methods given in ISO 11890-2.

✉ Documentation showing that the test laboratory fulfils the requirements in Appendix 4.

O15 Volatile Aromatic Compounds

Volatile aromatic compounds (VAC) must not be actively added to the product but may occur as residuals to a total maximum of 100 ppm (0.01 w%, 100 mg/kg) in the final product.

Volatile aromatic compounds are volatile organic compounds where one or more benzene rings are contained within the molecule.

✉ Declaration in line with Appendix 1 from the manufacturer of the product and Appendix 2 from the manufacturer of each raw material.

✉ Calculation of the level of volatile aromatic compounds in the product (based on data for all ingoing raw materials).

1.3 Binder requirements

The requirements in this section aims to promote raw materials with less climate impact, reduced energy consumption, increased energy efficiency, transition from fossil to sustainable raw materials, use of more renewable energy – and subsequently, reduced emissions of greenhouse gases. The requirements are divided in three parts depending on the binder type (acrylic resin, alkyd resin or cement/hydraulic binders), where the specific binder type in question must fulfil the requirement where relevant below. The description of the chemical type of binder shall be derived from that component of the binder which is decisive for the characteristic properties of the final coating system.

O16 Acrylic and alkyd resin binders

The following requirements must be fulfilled if the product contains acrylic or alkyd resins:

1. The license holder shall have a a) supply chain policy and b) code of conduct for responsible sourcing of renewable raw materials* used in acrylic and/or alkyd resin binders used in Nordic Swan Ecolabelled paints and varnishes.

a) The supply chain policy shall include the following:
   - A policy statement committing the license holder to respect human rights and the environment within its operations and supply chain; this includes a commitment to support suppliers' compliance with the supplier code of conduct by engaging in responsible purchasing practices.
   - Commitment to comply with all appliable local, national- and international environmental laws and regulations, as well as all applicable health and safety regulations.
   - A description for governance processes in place for due diligence; this includes routines for assessing biodiversity and deforestation risk along the whole supply chain.

b) A supplier Code of Conduct, that informs all suppliers along the whole supply chain what is expected of them with respect to the Licensee's own supply chain policy regarding human rights and protecting the environment.

The supply chain policy and code of conduct must be both public and communicated to the supply chain.

2. Acrylic resin binders:
   - If renewable raw materials from palm oil are used in acrylic resins the palm oil must be RSPO certified. This also includes by-products, residues, and waste fractions from palm oil industries, such as palm fatty acid distillate and palm effluent sludge. Traceability must at least be ensured by mass balance. Book and claim systems are not accepted.

- If any other renewable raw materials are used in acrylic resins, the raw material manufacturer of the acrylic resin must document:
    - Type of renewable raw material used in the acrylic resins (e.g., crops, sugarcane, source of bio-naphtha),
    - Whether the renewable raw materials are derived from primary feedstock or residue or waste,
    - Whether the renewable raw materials are certified according to any sustainability standards,
    - Level of traceability for certified products, (Identity Preserved, Segregated, Mass Balance, Book & Claim) on both the renewable raw materials used in the production of acrylic monomers and the acrylic resin itself.

3. Alkyd resin binders:
    - Fatty acids used in alkyd resin binders must be made from renewable or recycled raw materials.
    - Renewable raw materials from palm oil must not be used in fatty acids in alkyd resin. The requirement also includes by-products, residues, and waste fractions from palm oil industries, such as palm fatty acid distillate and palm effluent sludge.
    - The raw material manufacturer of the alkyd resin must document:
        - Type of renewable raw material used in the alky resins (e.g., castor oil, tall oil, rapeseed oil, soybean oil),
        - Whether the renewable raw materials are derived from primary feedstock or residue or waste,
        - Whether the renewable raw materials are certified according to any sustainability standards,
        - Level of traceability for certified products, (Identity Preserved, Segregated, Mass Balance, Book & Claim) on the renewable raw materials used in the production of alkyd resins.

** Renewable raw materials compose of biomass and that can be continually replenished for example wood, crops, marine products, organic waste.*

✉ Submit both supply chain policy and supplier code of conduct, together with information on how these are public and communicated to the supply chain.

✉ Declaration in line with Appendices 1 or 2 from the manufacturer of the product or the manufacturer of each raw material, respectively.

✉ Declaration in line with Appendix 4 signed by the manufacturer of the acrylic or alkyd resins.

Acrylic resin binders:

✉ Invoices/delivery notes/order confirmation which document purchase of RSPO certified raw materials. The information on the document must include information on type of traceability (Segregated, identity preserved or mass balance)

✉ The raw material manufacturer must provide information on the raw material(s) according to the requirement.

Alkyd resin binders:

✉ Declaration from the licensee stating that a) fatty acids used in alkyd resin binders are made from renewable raw materials or recycled raw materials and b) renewable raw materials from palm oil are not used in fatty acids in alkyd resin.

✉ The raw material manufacturer must provide information on the raw material(s) according to the requirement.

O17 Cement/Hydraulic binder

- If the paint contains cement according to EN 197-1. EN 14647, EN 998-1 or containing other hydraulic binders, the producer of cement clinker or alternative hydraulic binder must fulfil the following requirements.
- The total global warming potential (GWP) for system boundaries A1 (Raw material supply), A2 (Transport), A3 (Manufacturing) according to EN 15804+A2 shall not exceed the values given below.

Table 13 Limit values for product-specific emissions for cement and alternative hydraulic binders. Product specific GWPtot for the cradle to gate system boundaries (A1-A3)

Cement/hydraulic binder type	GWP_{tot} A1-A3
White cement clinker	0.973tCO_2e/tonne white cement clinker
Grey cement clinker	0.722tCO_2e/tonne grey cement clinker
Lime	0.746tCO_2e/tonne lime

✉ Product-Specific Type III Environmental Product Declaration (EPD) in accordance with ISO 21930, ISO 14025, ISO 14040, and ISO 14044 showing that the GWP limit is met for system boundaries A1-A3.

✉ Documentation from the license holder showing that the specific cement or hydraulic binder is used in the product.

✉ Declaration in line with Appendices 1 or 2 from the manufacturer of the product or the manufacturer of each raw material, respectively.

1.4 Quality requirements

For quality requirements for different paints and varnishes, an overview of the tests required per type of paint and/or varnish has been added, as viewed in Table 14. For full information regarding each quality requirement and paint type, see the specific requirements in the sections starting from 1.5.

For all the following tests all test laboratories must fulfil the general requirements according to standard EN ISO/IEC 17025 or be an official GLP approved laboratory. Alternatively, the companies own laboratory can work as a test laboratory if the laboratory is included by the company quality system, see Appendix 4.

Table 14 Performance requirements for different types of paints and varnishes (industrial not included)

Performance requirements for different types of paints and varnishes with subcategory denotation according to Directive 2004/42/EC								
Requirement	**Indoor paint (a, b)**	**Outdoor paint (c)**	**Trim and cladding (d)**	**Thick decorative coating indoor and outdoor (l)**	**Varnish and woodstain (e, f)**	**One and two pack performance and floor covering paint (i, j)**	**Primer (g)**	**Undercoat and primer (h)**
O20 Spreading rate *(only for white and light-coloured paints, including the white base paint used in tinting systems) – ISO 6504/1. Not applicable to varnishes, lasures, transparent adhesion primers or any other transparent coating.*	8 m^2/L 4 m^2/L (elastomeric paint)	-	Indoor products 8 m^2/L	Indoor products 1 m^2/L	-	Indoor products 8 m^2/L	6 m^2/L (without having specific properties) 8 m^2/L (with opacity)	6 m^2/L (without specific properties) 8 m^2/L (with opacity)
O21 Resistance to water – ISO 2812-3	-	-	-	-	Resistant to water	Resistant to water	-	-
O22 Adhesion – EN ISO 4624 and EN ISO 2409	-	-	-	-	-	Score 2	1,5 MPa (masonry paint) Score 2 (transparent, metal and wood primers	1,5 MPa (masonry paint) Score 2 (transparent, metal and wood primers)
O23 Abrasion – EN ISO 7784-2/ISO 5470-1	-	-	-	-	-	70 mg weight loss	-	-
O24 Weathering – EN 16473-3/EN 927-6	-	1 000 h 2 016 h (wood paint, stains and varnishes)	1 000 h (outdoor)	1 000 h (outdoor)	1 000 h (outdoor) 840 h (wood oils)	1 000 h (outdoor)	-	-
O25 Water vapour permeability (1) – EN ISO 7783-2 / EN 1062-1 / ISO 12572	-	Class II or better (masonry or concrete) Class I (masonry or concrete according EN 1504-2)	-	Class II or better (masonry or concrete) Class I (masonry or concrete according EN 1504-2)	-	-	-	-
O26 Liquid water permeability (1) EN 1062-3	Where claims are made Class III (masonry and concrete) All other products	-	Class II or better (masonry or concrete)	-	-	-	-	-

Performance requirements for different types of paints and varnishes with subcategory denotation according to Directive 2004/42/EC								
Requirement	**Indoor paint (a, b)**	**Outdoor paint (c)**	**Trim and cladding (d)**	**Thick decorative coating indoor and outdoor (l)**	**Varnish and woodstain (e, f)**	**One and two pack performance and floor covering paint (i, j)**	**Primer (g)**	**Undercoat and primer (h)**
	Class II or better (masonry and concrete)							
O27 Fungal growth – EN 927-3, ISO 15457, EN ISO 4628-1	-	Class 0 (wood paints) Class 2 or lower (masonry paints)	Class 0 (outdoor wood products)	Class 1 or lower (outdoor)	-	-	-	-

1.5 Quality requirements for indoor paints and varnishes

O18 Claims of Wet Scrub Resistance

Only Wet Scrub Resistance class 1 and 2 ecolabelled paints may claim wet scrub resistance on the label or other marketing documentation.

All wall and ceiling paints for which claims of class 1 or 2 in wet scrub is made shall achieve the claimed class according to class 1 or class 2 in wet scrub resistance (WSR) according to EN 13300 and EN ISO 11998. This requirement only applies to tinting bases (base paints).

The test laboratory must fulfil the requirements in Appendix 4.

For tinting systems or a paint series with different colours this requirement only has to be demonstrated for one of the paints.

✉ The applicant shall provide a test report according to EN 13300 using the method EN ISO 11998 (Test for cleanability and scrub resistance). For ceiling paints and indoor wall paints the labelling for the packaging, including the accompanying text, shall be provided as evidence regarding claims of wet scrub resistance.

✉ Documentation showing that the test laboratory fulfils the requirements in Appendix 4.

O19 White pigment content

Indoor wall and ceiling paints for which Class 1 and 2 wet scrub resistance* claims are made shall have a white pigment content (white inorganic pigments with a refractive index higher than 1.8) per m^2 of dry film equal to or lower than that described in Table 15, with 98 % opacity.

All other paints shall have a white pigment content (white inorganic pigments with a refractive index higher than 1.8) per m^2 of dry film equal to or lower than that described in Table 16, with 98 % opacity.

For tinting systems this requirement only applies to the base paint with the highest white pigment content or for the paint in a paint series with the highest white pigment content.

** Wet scrub resistance is here defined in accordance with EN 13300 and EN ISO 11998, see requirement O18.*

Table 15 Limit values for white pigment content for wall and ceiling paints for indoor use marketed with claims of wet scrub resistance.

Wet scrub resistance	Indoor limit (g/m^2)
Class I	40
Class 2	36

Table 16 Limits for white pigment content for products not covered by Table 15.

Type of paint	Indoor limit (g/m^2) with 98% opacity
Wall paints	25
Other paints (including ceiling paints)	36

✉ The applicant shall provide calculation or documentation showing that the content of white pigments is compliant with this requirement.

✉ For ceiling paints and indoor wall paints, the labelling for the packaging, including the accompanying text, shall be provided as evidence regarding claims of wet scrub resistance.

O20 Spreading rate

The spreading rate should be at least at the levels presented in Table 17 below.

This requirement does not apply to varnishes, wood stains (lasures), transparent adhesion primers or any other transparent coatings.

- For paint series that are available in more colours the spreading rate shall apply to the lightest colour.
- For tinting systems, this requirement applies only to the white base (the base containing the most TiO_2). In cases where the white base is unable to achieve this requirement, the requirement shall be met after tinting the white base to produce the standard colour RAL 9010.
- For paints that are a part of a tinting system, the applicant must advise the end-user on the product packaging and at the Point of Sale which shade or primer/undercoat (if possible, bearing the Nordic Swan Ecolabel/EU-Ecolabel) should be used as a basecoat before applying the darker shade.
- The test laboratory must fulfil the requirements in Appendix 4.

Table 17 Spreading rate

Type	Opacity/hiding power	Spreading rate of at least the following
White paints and light-coloured paints (tri-stimulus (Y-value) > 70%) (including finishes and intermediates) *, **	Hiding power 98%	8 m^2 per litre of product
Semi-transparent primers	Without opacity or having specific properties *** With opacity	6 m^2 per litre of product 8 m^2 per litre of product
Thick decorative coatings (paints that are specially designed to give a three-dimensional decorative effect and are therefore characterised by a very thick coat)	Not relevant	1 m^2 per kg of product
Opaque elastomeric paints	Opaque	4 m^2 per litre of product

** Base paints to be used with a tinting system.*

*** Products marketed for both — indoor and outdoor shall have a spreading rate (at a hiding power of 98 %) of at least 8 m^2 per litre.*

**** Opaque primers with specific blocking/sealing, penetrating/binding properties.*

✉ The applicant shall provide a test report using one of the following:

- The method ISO 6504/1 (Paints and varnishes — determination of hiding power — Part 1: Kubelka-Munk method for white and light-coloured paints) or
- ISO 6504/3 (Part 3: determination of contrast ratio (opacity) of light-coloured paints at a fixed spreading rate) or
- For paints specially designed to give a three-dimensional decorative effect and characterised by a very thick coat the method NF T 30 073.

✉ For bases used to produce tinted products not evaluated according to the abovementioned requirements, the applicant shall produce evidence of how the end-user will be advised to use a primer and/or grey (or other relevant shade) of undercoat before application of the product.

✉ Documentation showing that the test laboratory fulfils the requirements in Appendix 4.

O21 Resistance to water

All varnishes, floor coatings and floor paints (e.g., with subcategory denotation e, f, i, and j according to Directive 2004/EC) shall have resistance to water, as determined by ISO 2812-3 such that after 24 hours' exposure and 16 hours' recovery no change of gloss or of colour occurs.

✉ The applicant shall provide a test report using the method ISO 2812-3.

✉ Documentation showing that the test laboratory fulfils the requirement in Appendix 4.

O22 Adhesion

- Pigmented masonry primers for indoor walls (with subcategory denotation g and h according to Directive 2004/EC) shall score a pass in the EN ISO 4624 pull-off test where the cohesive strength of the substrate is less than the adhesive strength of the paint, otherwise the adhesion of the paint must be in excess of a pass value of 1.5 MPa.
- Floor coatings, floor paints, floor primers, masonry primers, transparent primers, metal, and wood primers for indoor use (with subcategory denotation g, h, i, and j according to Directive 2004/EC) shall score 2 or less in the EN ISO 2409 test for adhesion.

The test laboratory must fulfil the requirements in Appendix 4.

The applicant shall evaluate the primer and/or finish alone or both applied together. When testing the finish alone, this shall be considered the worst-case scenario concerning adhesion.

✉ The applicant shall provide a test report using the method EN ISO 2409 or EN ISO 4624.

✉ Documentation showing that the test laboratory fulfils the requirements in Appendix 4.

O23 Abrasion

- Floor coatings and floor paints (with subcategory denotation i and j according to Directive 2004/EC) shall have an abrasion resistance not exceeding 70 mg weight loss after 1000 test cycles with a 1000 g load and a CS10 wheel according to EN ISO 7784-2.
- Alternatively, a test according to ISO 5470-1 with 1000 test cycles with 1000 gram load and the H22 wheel where the weight loss is maximum 3000 mg.

✉ The applicant shall provide a test report showing compliance with this requirement using the method EN ISO 7784-2 or ISO 5470-1.

✉ Documentation showing that the test laboratory fulfils the requirements in Appendix 4.

1.6 Quality requirements for outdoor paints and varnishes

If there is no relevant quality test for a specific product mentioned below, Nordic Ecolabelling can extend the requirements for quality tests during the validity of the criteria to include other relevant tests.

O24 Weathering test for outdoor paints and varnishes

Products shall be exposed to artificial weathering in special apparatus including UV fluorescent lamps and condensation or water spray according to the respective tests mentioned.

- Masonry paints shall be exposed to test conditions for 1000 hours (6 weeks) (UVA 4h/60ºC + humidity 4h/50ºC) according to ISO 16474-3.
- Metal finishes shall be exposed to test conditions for 500 hours (6 weeks) (UVA 4h/60ºC + humidity 4h/50ºC) according to ISO 16474-3.
- Wood paints, wood stains (lasure) and varnishes shall be exposed to test conditions for 2016 hours (12 weeks) according to EN 927-6.
- Wood oils shall be exposed to test conditions 840 hours (5 weeks) according to EN 927-6.

The following results of the weathering test are also to be reported:

- Flaking (according to ISO 4628-5). The product is to have a flake density of 2 or less, and a flake size of 2 or less. The requirement is not applicable to non-film forming wood oils.
- Cracking (according to ISO 4628-4). The product is to have a crack quantity of 2 or less and a crack size of 3 or less. The requirement is not applicable to non-film forming wood oils.
- Blistering (according to ISO 4628-2). The product is to have a blister quantity of 3 or less and a blister size of 3 or less. The requirement is not applicable to non-film forming wood oils.
- The colour change (according to EN ISO/CIE 116 64-4 EN ISO 116 64-6) shall not exceed $\Delta E^*=4$ with respect to the initial value. The requirement is not applicable to varnishes, bases and non-film forming wood oils.
- Decrease in gloss (according to EN ISO 2813) shall not be greater than 30% of initial value – matte paints and varnishes with an initial gloss value less than 60% at 60° angle of incident are exempted from the requirement. The requirement is not applicable for non-film forming wood oils.
- Chalking (according to EN ISO 4628-6) for masonry paints and metal finishes. The product shall achieve at least 1.5 or more, i.e., 0.5 or 1.0. In the standard there are pictorial reference standards. The requirement is not applicable to non-film forming wood oils.
- General appearance (according to EN ISO 4628-1).

If an entire paint system is Nordic Swan Ecolabelled, all bases and colours must fulfil the requirements. This can be documented by testing at least three representative products – at least one white, one intermediate colour and one dark colour – to show fulfilment of the quality requirement.

✉ Test report from a laboratory in line with Appendix 4 which clearly shows that the requirement is fulfilled.

O25 Water vapour permeability for masonry paints for outdoor use

If masonry and concrete paints (with subcategory denotation c and l according to Directive 2004/EC) are marketed as water vapour permeable or similar claims are made, the paints are to be classified as Class II, i.e., with average water vapour permeability or better according to test method EN ISO 7783-2 and classified according to EN 1062-1 or EN 1504-2*. Due to large numbers of possible tinting colours, this criterion will be restricted to testing of the base paint. This method is not applicable for transparent primers. Alternative test method such as ISO 12572 is also accepted.

** Masonry paints tested according to EN1504-2 must fulfil class I.*

✉ Test report from a laboratory in line with Appendix 4 which clearly shows that the requirement is fulfilled.

O26 Liquid water permeability for masonry paints for outdoor use

If masonry and concrete paints (with subcategory denotation c and l according to Directive 2004/EC) are marketed as water repellent/hydrophobic or similar claims are made, the paints are to be classified as Class III, i.e., with low liquid water permeability according to DIN EN 1062-3. Due to large numbers of possible tinting colours, this criterion will be restricted to testing of the base paint.

✉ Test report from a laboratory in line with Appendix 4 which clearly shows that the requirement is fulfilled.

O27 Fungal growth

If the product contains dry film preservatives which have anti-fungal and/or anti-algal properties, methods mentioned in EN 15457 and EN 15458 or EN 927-3 (with reading method according to EN 16492 and assessment according to ISO 4628-1) shall be used to show this.

Products intended for mineral substrates (with subcategory denotation c or d according to Directive 2004/EC) must achieve a rating of 2 or lower (1 or 0) (under 10% fungal growth), as established in BS 3900:G6 or EN 15457 and EN 15458 or equivalent.

Products intended for wood are to be tested according to EN-927-3 or equivalent. No detectable defects (rating 0, table 1) and no defects visible under 10 times magnification (rating 0, table 2) according to EN ISO 4628-1.

Due to large numbers of possible tinting colours, this criterion will be restricted to testing of the base paint.

✉ Test report from a laboratory in line with Appendix 4 which clearly shows that the requirement is fulfilled.

O28 Powder paints and varnishes for outdoor use

Powder paints for outdoor use must meet the quality requirements in Qualicoat or in the GSB standard GSB AL 631 (Aluminium) or GSB ST 663 (Steel and Galvanised steel).

✉ Certificate from Qualicoat or GSB showing that the product meets the requirements applicable to the product.

1.7 Quality requirements for industrial paints and varnishes

Industrial paints and varnishes are applied to furniture, wall panels, floors and similar or used within infrastructure (anti-corrosion paints). The quality of these products is to be tested according to the methods that are relevant for the purpose of the paint/varnish as follows:

- Industrial paints and varnishes for exterior use has to fulfil the relevant parts of O24, O25, O26, O27 and O28
- Furniture – O29 according to the criteria of “Möbelfakta”[5]
- Panels, UV-cured floors and similar – O30 (scratch resistance)
- Paints and varnishes for painting/coating floors, including UV-cured floors – O31 and O32 (Abrasion/wear and water resistance)
- Anti-corrosion paints for industry and infrastructure – O33

If there is no relevant quality test for a specific product mentioned above, Nordic Ecolabelling can expand the requirements for quality tests during the validity of the criteria to include other relevant tests.

O29 Quality requirements for industrial paints and varnishes for furniture

Indoor and outdoor industrial paints and varnishes for furniture must meet the requirements according to table 18 and 19 below. The test must be carried out according to the current version of the standard of the "Möbelfakta”[90] criteria. When updating the standard during the validity period of the license, it is the responsibility of the licensee to ensure that the requirements of the new valid version of the standard are met.

5 https://www.mobelfakta.se/uploads/files/1011_kravspecifikation_2021-11-01_14_2.pdf

Table 18 Requirement levels for varnished surfaces in different furniture groups.

Furniture group	Area	Requirement
Seating	Undercarriage	Requirement level 1
	Seat, backrest, and armrests	Requirement level 2
Storage units	Undercarriage and interior surfaces including box bottoms, but not vertical surfaces, e.g., backs	Requirement level 1
	External horizontal surfaces	Requirement level 2
Tables	Undercarriage	Requirement level 1
	Tabletops	Requirement level 4
	Tabletops intended for intensive use in a public environment (e.g., restaurant, cafe, school)	Requirement level 5
Kitchen	Internal surfaces, including drawer bottoms, but not shelves and bottoms and vertical surfaces, e.g., backs	Requirement level 1
	External surfaces, shelves, and bases	Requirement level 3
	Worktops (tabletops)	Requirement level 6

Table 19 Test methods and requirement levels for furniture tests

Requirement category		Requirement levels					
Tests:	**References:**	**1**	**2**	**3**	**4**	**5**	**6**
Water ([1])	EN 12720	6 h	16 h	16 h	24 h	24 h	24 h
Grease ([1])	EN 12720	24 h	24 h	24 h	24 h	24 h	24 h
Grease + scratches ([1])	SS 83 91 22	-	-	-	24 h+3 N	24 h+3 N	24 h+3 N
Scratches ([2])	SS 83 91 17	-	3 N	3 N	5 N	5 N	5 N
	alt. EN 15186. Method A ([3])	-	1,5 N	1,5 N	1,5 N	3 N	3 N
Alcohol ([1])	EN 12720	-	-	-	1 h	1 h	1 h
Coffee ([1])	EN 12720	-	1 h*	1 h	1 h	1 h	1 h
Heat, dryness ([1])	EN 12722	-	-	-	70 °C	70 °C	180 °C
Heat, moisture ([1])	EN 12721	-	-	-	-	-	85 °C
Heat on edge ([1])	NS 8061	-	-	-	-	-	85 °C
Water on edge ([1])	SS 83 91 20	-	-	1 h***	-	-	-
Sweat, acid and alkaline ([1])	EN 12720	-	1 h**	-	-	-	-

([1]) A result of 4 is pass score in the assessment. Assessment after 24 h

([2]) Maximum scratch width 0.5 mm. Penetration of the varnish layer is not acceptable.

([3]) Maximum scratch width 0.3 mm.

* Applies to storage units – external horizontal surfaces ≤ 1,250 mm above floor-level.

** Applies to armrests.

*** Applies to doors and drawer fronts.

✉ The applicant must submit a complete test report with information on which function/end use the paints or varnishes have been tested for and which standard has been used, the test institute and test result clearly showing that the requirements are fulfilled.

O30 Scratch resistance for panels and similar

Scratch resistance can be tested using the following methods or equivalent:

- Scratch resistance ASTM D2794 (http://www.astm.org/Standards/D2794.htm)
- "Sheen Automatic Scratch Tester" according to EN ISO 1518-1

✉ The applicant must submit a complete test report showing that the paint/varnish has satisfactory scratch resistance for its intended purpose.

O31 Abrasion/wear for surfaces subject to heavy wear, e.g., UV-cured floors and sheeting

- Floor paints, floor coatings and other products subject to an equivalent level of wear must have an abrasion resistance not exceeding 70 mg weight loss after 1000 test cycles with a 1000 g load and a CS10 wheel according to EN ISO 7784-2.
- Alternatively, a test according to EN ISO 5470-1 can be performed with 1000 test cycles with 1000 gram load and H22-wheel where the weight loss is maximum 3000 mg.

The following methods are also applicable depending on the substrate:

- Coatings must meet the scratch depth and width requirements outlined in EN 14354 for the specific coating, with no visible cracking or delamination present or,
- Coatings must have an abrasion resistance not exceeding 50 mg weight loss after 1000 test cycles with a 1000 g load and a CS10 wheel for decorative coatings, and a weight loss not exceeding 100 mg after 1000 cycles with a 1000g load and a CS17 wheel for protective coatings according to ISO 15185 or,
- Coatings must have an abrasion resistance not exceeding 0.5 g after 2000 cycles with a 1000 g load and a CS10 wheel, or not exceed 2 g after 2000 cycles with a 2000 g load with a CS17 wheel according to EN 660-2.

✉ The applicant must submit a complete test report showing that this requirement has been fulfilled in accordance with EN ISO 77842-2, EN ISO 5470-1, EN 14354, ISO 15185 or EN 660-2.

O32 Water resistance for surfaces subject to heavy wear, e.g., UV-cured floors and sheeting

- Varnishes, floor coatings and floor paints shall have a resistance to water, as determined by ISO 2812-3 (Paints and varnishes – determination of resistance to liquids – Part 3: Method using an absorbent medium), such that after 24 hours' exposure and 16 hours' recovery no change of gloss or of colour occurs.

✉ The applicant shall submit a complete test report showing that this requirement has been fulfilled in accordance with ISO 2812-3.

O33 Quality requirements for anti-corrosion paints

Coatings based on organic polymers cannot be Nordic Swan Ecolabelled if they are to be applied to steel structures belonging to corrosion categories C4 to CX, C3-products used for coastal areas and immersion categories Im1 to Im4, as defined in ISO 12944-6 and ISO 12944-9.

Anti-corrosion paints without zinc:

Paint systems shall be tested for corrosion according to the methods that are relevant to the purpose of the treatment, i.e., C2-C5 or Im 1-3 according to ISO

12944-6. The test must be adapted for each corrosivity category so that it corresponds to testing according to table 20 for C2-C5, alternatively table 21 for Im 1-Im 3.

If the intended use of the paint is offshore or equivalent, the coating system must meet the requirements for corrosion class CX according to EN ISO 12944-9.

If cathodic protection is to be used, the coating must pass Im 4 according to EN ISO 12944-9.

Table 20 Requirements for accelerated corrosion testing for different corrosivity.

Nordic Swan requirement	ISO 6270-1 Condensation	ISO 9227 Salt spray	ISO 12944-9 Appendix B	Corresponding classification in ISO 12944-6, -9
Corrosivity category				
C2	240	480	-	C2 VH
C3	480	720	-	C3 VH
C4	720	1440	-	C4 VH
C5	720	1440	2688	C5 H, C5 VH

Table 21 Requirements for accelerated corrosion testing for different exposure categories.

Nordic Swan requirement	ISO 2812-2 Water immersion method		ISO 6270-1 Condensation	ISO 9227 Salt spray	Corresponding classification in ISO 12944-6, -9
Corrosivity category	Fresh water	5% NaCL			
Im 1	4000	-	2160	-	Im 1 VH
Im 2, Im 3	-	4000	-	2160	Im 2-3 VH

Anti-corrosion paints containing zinc:

Zinc-containing paints are defined as paints pigmented with metallic zinc, as well as paints with zinc-based corrosion pigments, for example zinc phosphate. Metallic coatings such as hot-dip galvanizing and thermally sprayed zinc or zinc alloys are not classified as anti-corrosion paint.

For metallic zinc pigment the following applies:

- Metallic zinc included in the product must be of Type II or higher grade according to ASTM D520.
- Metallic zinc included in the product must consist of at least 80% of recycled zinc.

Paint systems with zinc-containing primer:

Paint systems with zinc-containing primer or middle/topcoat must pass the same tests as anti-corrosion paints that do not contain zinc, see tables 20 and 21.

Zinc-containing single-coat paints:

Zinc-containing single-layer paints must pass testing according to Table 22. The tests must be performed with scribed samples according to EN ISO 12944-9. Requirements for rust creep from scribe after testing are in accordance with Im 4, EN ISO 12944-9.

If the intended use of the paints is offshore or equivalent, the paint must also meet the requirement for corrosion class CX according to EN ISO 12944-9.

If cathodic protection is to be used, the paint must pass Im 4 according to EN ISO 12944-9.

Table 22 Requirements for accelerated corrosion testing for single-layer paints containing zinc.

Nordic Swan requirement	ISO 2812-2 Water immersion method		ISO 6270-1 Condensation	ISO 9227 Salt spray	Corresponding classification in ISO 12944-6*
Corrosivity category	Fresh water	5% NaCl			
C2	4000	4000	2160	2160	Im 1-3 VH
C3	4000	4000	2160	2160	Im 1-3 VH
C4	4000	4000	2160	2160	Im 1-3 VH
C5	4000	4000	2160	2160	Im 1-3 VH
CX	4200	4200	2160	2160	Im 1-3 VH
Im 1-3	4200	4200	2160	2160	Im 1-3 VH

** Normally these tests are performed with non-scratched panels. Testing for the Nordic Swan should be carried out with scratched panels according to ISO 12944-9.*

✉ For anti-corrosion paints containing zinc; test report for metallic zinc according to ASTM D520.

✉ Certificate from the supplier of metallic zinc showing that 80% of the zinc used in the product is recycled.

✉ Test report for anti-corrosion protection according EN ISO 12944-6, EN ISO 12944-9 or EN ISO 2812-2 depending on relevant method which clearly shows that the requirement is met.

2 Requirements concerning packaging, labelling, consumer information and, recycling

O34 Packaging

If the packaging material contains plastic the following requirement must be met:

- Plastic packaging must contain a minimum of 30 weight% recycled material*.

Packaging made from aluminium is not allowed for use.

Information on how the packaging should be sorted as dried or emptied must be written on the packaging (see requirement O35).

Exemption to the requirement is given for the following:

- Packaging (e.g., pouches) that amounts to less than 25 grams per litre of paint.
- For packaging ≥ 18 litres.

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

"Pre-consumer/commercial" is defined as material diverted from the waste stream during a manufacturing process. Excluded is reutilization of materials such as rework, regrind or scrap generated in a process and capable of being reclaimed within the same process that generated it. Nordic Ecolabelling defines rework, regrind or scrap, that cannot be recycled directly in the same process, but requires a reprocessing (e.g., sorting, reclamation and granulation) before it can be recycled, to be pre-consumer/commercial material. This is whether it is produced in-house or externally.

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

✉ Description and documentation from plastic manufacturers showing that the plastic is recycled in compliance with the requirement’s definition or has EuCertPlast certification or Global Recycled Standard certification.

✉ Calculation or statement from the packaging manufacturer showing the percentage of recycled material in the packaging.

O35 Consumer information

The following information must be stated on the packaging. If there are any space issues, parts of the text can be moved to the technical data sheet or can be made available at the manufacturer's website with information. In addition, parts of the text can be translated into symbols.

- The purpose, substrate, and other conditions of application for which the product is intended. This shall include advice on preparation, e.g., correct preparation of the substrate or temperature.
- Estimate of “normal” coverage (e.g., l/m^2 or equivalent).
- Recommended preventive safety measures for users, such as safety equipment and ventilation (particularly when working in enclosed spaces or similar).
- The label must contain information on how the packaging should be sorted in the relevant country of sale. If the relevant country of sale has any possibility to sort the empty and dry packaging, then information must be placed on the packaging that it should be sorted as plastic or metal recycling.
- Remove the handle before sorting (only relevant if the handle is made of metal).
- Information that liquid paint and washing water with paint residues must not be emptied down the drain but delivered to an approved hazardous waste collection point.
- Recommendations on cleaning used tools and how waste products from cleaning can best be disposed of (to limit water pollution). These recommendations are to be adapted to the product types and areas of application. Pictograms may also be used where appropriate.
- Recommendations on how the product is to be stored after opening, including safety instructions where relevant.

✉ Label, product sheet or equivalent and description of how the information accompanies each product.

3 Licence maintenance

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

O36 Customer complaints

The licensee must guarantee that the quality of the Nordic Swan Ecolabelled 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 complain.

O37 Traceability

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

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

✉ Please upload your routine or a description.

Regulations for the Nordic Ecolabelling of products

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

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

Follow-up inspections

Nordic Ecolabelling may decide to check whether the paint and varnish 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 paint or varnish 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.

Criteria version history

Nordic Ecolabelling adopted version 4.0 of the criteria for Paints and varnishes on 14 September 2023. The criteria are valid until 15 September 2028.

Nordic Ecolabelling decided 7 December 2023 to remove the requirement of recycled material in metal packaging completely. Furthermore, the limit values for recycled material in plastic packaging has been lowered from 40% to 30%. In addition, lids and handles are no longer exempted from the requirement and must comply with the overall requirement. The new version is called 4.1 and is valid until 15 September 2028.

Nordic Ecolabelling decided 9 April 2024 to add an exemption for the antioxidant BHT that can be present in raw material in requirement O12. Furthermore, O2 has included the new CLP classifications that were added in O3 for communicative reasons. Lastly, an exemption that was part of the public consultation for industrial packaging >18 L are exempted from there requirement of recycled material. The new version is called 4.2 and is valid until 15 September 2028.

Nordic Ecolabelling decided 24 September 2024, to extend the time-limited exemption in O3 for TMP to 2027-05-31. The new version is called 4.3 and is valid until 15 September 2028.

Nordic Ecolabelling decided 12 November 2024 in O12 to include a clarification regarding the prohibition against PFAS for halogenated organic compounds. The new version is called 4.4 and is valid until 15 September 2028.

New criteria

- Determine environmental gains with energy requirement for polymer producers.
- Determine environmental gains with energy requirement for paint manufacturer.
- Evaluate the possibility of stricter requirement for biobased binders.
- Determine possible environmental gains with requirement to SVOC (Semi-Volatile Organic Compounds) in industrial paints and varnishes.

Appendix 1 Declaration from the manufacturer of the paint or varnish

To be used in conjunction with an application for a licence for the Nordic Ecolabelling paint and varnishes. To complete the following declaration, you will need declarations for all raw materials (Appendix 2 or equivalent declaration) and Appendix 3 or equivalent declaration).

Declaration is made by the manufacturer based to the best of their knowledge at the given time, also based on information from raw material manufacturers, recipe, and available knowledge on the chemical product with reservations for new advances and new knowledge. Should such new knowledge arise, the undersigned is obliged to submit an updated declaration to Nordic Ecolabelling.

Product name: _____

Product's function/product group (e.g., paint, masonry coatings) with subcategory denotation according to Directive 2004/EC) if relevant:

_____

The requirements in the criteria document and accompanying appendices apply to all ingoing substances in the Nordic Swan Ecolabelled paint and varnish. Impurities are not regarded as ingoing substances and are exempt from the requirements.

Ingoing substances and impurities are here defined as below, unless stated otherwise in the requirements. Be aware that these are not the same definitions as in REACH ((EU) 1907/2006) and CLP ((EU) 1272/2008).

- Ingoing substances**:** all substances in the Nordic Swan Ecolabelled product regardless of amount, including additives (e.g., preservatives and stabilizers) in the raw materials. Substances known to be released from ingoing substances (e.g., formaldehyde, arylamine, in situ-generated preservatives) are also regarded as ingoing substances.

- Impurities**:** residuals, pollutants, contaminants etc. from production, incl. production of raw materials, that remain in the Nordic Swan Ecolabelled product in concentrations less than 100 ppm (0,0100 w%).

- Impurities in the raw materials exceeding concentrations of 10 000 ppm (1.0000 w%) are always regarded as ingoing substances, regardless of the concentration in the Nordic Swan Ecolabelled product.

Examples of impurities are residues of the following: residues or reagents incl. residues of monomers, catalysts, by-products, scavengers, and detergents for production equipment and carry-over from other or previous production lines.

The impurity limit of 100 ppm (0.0100 w%) applies to each individual substance that is excluded, i.e., Impurities with the same classification in different raw

materials shall not be summed up to comply with the limit. The same contaminants in different raw materials also do not need to be summed.

O2 Classification of the product		
Is the product classified with any of the hazard phrases below? *Including all combinations of stated exposure routes and stated specific effect. For example, H350 also covers classification H350i.*	Yes	No
If the answer to all the classifications below is No, mark here		☐
H400 – Toxic to aquatic life, Acute 1	☐	☐
H410 – Toxic to aquatic life, Chronic 1	☐	☐
H411 – Toxic to aquatic life, Chronic 2	☐	☐
H412 – Toxic to aquatic life, Chronic 3	☐	☐
H413 – Toxic to aquatic life, Chronic 4	☐	☐
H350 – May cause cancer, hazard category 1A and 1B	☐	☐
H351 – Suspected of causing cancer, hazard category 2	☐	☐
H340 – May cause genetic defects, hazard category 1A and 1B	☐	☐
H341 – May cause genetic defects, hazard category 2	☐	☐
H360 – Toxic for reproduction, hazard category 1A and 1B	☐	☐
H361 – Toxic for reproduction, hazard category 2	☐	☐
H362 – Toxic for reproduction, effects on or through breastfeeding (supplementary cat.)	☐	☐
EUH380 – Endocrine disruption for human health, category 1	☐	☐
EUH381 – Endocrine disruption for human health, category 2	☐	☐
EUH430 – Endocrine disruption for the environment, category 1	☐	☐
EUH431 – Endocrine disruption for the environment, category 2	☐	☐
EUH440 – Persistent, Bioaccumulative and Toxic properties	☐	☐
EUH441 – Very Persistent, Very Bioaccumulative properties	☐	☐
EUH450 – Persistent, Mobile, and Toxic properties	☐	☐
EUH451 – Very Persistent, Very Mobile properties	☐	☐
H300 – Acute toxicity	☐	☐
H310 – Acute toxicity	☐	☐
H330 – Acute toxicity	☐	☐
H301 – Acute toxicity	☐	☐
H311 – Acute toxicity	☐	☐
H331 – Acute toxicity	☐	☐
H302 – Acute toxicity	☐	☐
H312 – Acute toxicity	☐	☐
H332 – Acute toxicity	☐	☐
H370 – Specific target organ toxicity: single exposure and repeated exposure	☐	☐
H371 – Specific target organ toxicity: single exposure and repeated exposure	☐	☐
H372 – Specific target organ toxicity: single exposure and repeated exposure	☐	☐
H373 – Specific target organ toxicity: single exposure and repeated exposure	☐	☐
H304 – Aspiration hazard	☐	☐
H334 – Respiratory sensitising	☐	☐
H317 – Skin sensitising	☐	☐
H200 – Unstable explosive	☐	☐
H201 – Explosive: mass explosion hazard	☐	☐
H202 – Explosive: severe projection hazard	☐	☐
H203 – Explosive: fire, blast or projection hazard	☐	☐
H204 – Fire or projection hazard	☐	☐
H205 – May mass explode in fire	☐	☐

H206 – Fire, blast, or projection hazard: increased risk of explosion if desensitizing agent is reduced	☐	☐
H271 – May cause fire or explosion: strong oxidizer	☐	☐
H272 – May intensify fire: oxidizer	☐	☐
H240 – Heating may cause an explosion	☐	☐
H241 – Heating may cause a fire or explosion	☐	☐
H242 – Heating may cause a fire	☐	☐
H222 – Flammable material	☐	☐
H224 – Extremely flammable liquid and vapour	☐	☐

If the answer to any of the above questions is Yes, state the CAS no. (where possible), chemical name and level (in ppm, w% or mg / kg). Also state whether the substance is contained in the form of an impurity or an added substance.

_____

_____

_____

_____

O3 Classification of ingoing substances		
Does the product contain substances classified with any of the hazard phrases below? *Including all combinations of stated exposure routes and stated specific effect. For example, H350 also covers classification H350i.*	Yes	No
If the answer to all the classifications below is No, mark here		☐
H350 – May cause cancer, hazard category 1A and 1B	☐	☐
H351 – Suspected of causing cancer, hazard category 2	☐	☐
H340 – May cause genetic defects, hazard category 1A and 1B	☐	☐
H341 – May cause genetic defects, hazard category 2	☐	☐
H360 – Toxic for reproduction, hazard category 1A and 1B	☐	☐
H361 – Toxic for reproduction, hazard category 2	☐	☐
H362 – Toxic for reproduction, effects on or through breastfeeding (supplementary category)	☐	☐
H334 – Respiratory sensitising 1 / 1A / 1B	☐	☐
H370 – Specific organic toxicity, STOT SE 1	☐	☐
H372 – Specific organic toxicity, STOT RE 1	☐	☐
EUH380 – Endocrine disruption for human health, category 1	☐	☐
EUH381 – Endocrine disruption for human health, category 2	☐	☐
EUH430 – Endocrine disruption for the environment, category 1	☐	☐
EUH431 – Endocrine disruption for the environment, category 2	☐	☐
EUH440 – Persistent, Bioaccumulative and Toxic properties	☐	☐
EUH441 – Very Persistent, Very Bioaccumulative properties	☐	☐
EUH450 – Persistent, Mobile, and Toxic properties	☐	☐
EUH451 – Very Persistent, Very Mobile properties	☐	☐

If the answer to any of the above questions is Yes, state the CAS no. (where possible), chemical name and level (in ppm, w% or mg / kg). Also state whether the substance is contained in the form of an impurity or an added substance. If it is residual monomers in polymers, please state in point O7 instead.

_____

_____

O4 Environmentally harmful substances		
Does the product contain any substances classified as harmful to the environment with the following risk phrases or combinations of them?	Yes	No
H410 – Toxic to aquatic life, Chronic 1	☐	☐
H411 – Toxic to aquatic life, Chronic 2	☐	☐
H412 – Toxic to aquatic life, Chronic 3	☐	☐

If the answer to any of the above questions is Yes, state the CAS no. (where possible), chemical name and level (in ppm, w% or mg / kg). Also state whether the substance is a preservative.

O4 Environmentally harmful substances		
Does the product fulfil the requirement regarding maximum content of substances classified as harmful to the environment?	Yes ☐	No ☐

Please do calculation below clearly showing that requirement is fulfilled:

O5 Preservatives		
Does the product contain any preservatives?	Yes ☐	No ☐
If yes, please state: Does the preservatives comply with product-type 6 and product-type 7 according to Regulation (EU) No 528/2012 (The Biocidal Products Regulation)?	☐	☐
If yes, please state: Does the product fulfil the requirement regarding maximum contents of preservatives and total isothiazolinones according to **Table 5** and **Table 6** of the criteria document?	☐	☐

If the answer to any of the above questions is Yes, state the CAS no. (where possible), chemical name and level (in ppm, w% or mg / kg) and calculation showing that the requirement for total amount of preservatives and isothiazolinones is fulfilled.

O6 Formaldehyde		
Does the product contain formaldehyde or formaldehyde releasing agents?	Yes	No
If yes, please state: Is the product an indoor paint or varnish? **If yes,** please attach test report according to requirement O6, e.g., EN 16516	☐	☐
If yes, please state: Is the product an outdoor paint or varnish or industrial paint? **If yes,** please attach test report according to requirement O6 e.g., EPA 8315A, VdL-RL03, Merckoquant method, HPLC	☐	☐
O7 Residual monomers		
Does the product contain residual monomers in polymers present in product > 1% classified with any of the hazard phrases below? Including all combinations of stated exposure routes and stated specific effect. For example, H350 also covers classification H350i.	Yes	No
If the answer to all the classifications below is No, mark here		☐
H350 – May cause cancer, hazard category 1A and 1B	☐	☐
H351 – Suspected of causing cancer, hazard category 2	☐	☐
H340 – May cause genetic defects, hazard category 1A and 1B	☐	☐
H341 – May cause genetic defects, hazard category 2	☐	☐
H360 – Toxic for reproduction, hazard category 1A and 1B	☐	☐
H361 – Toxic for reproduction, hazard category 2	☐	☐
H362 – Toxic for reproduction, effects on or through breastfeeding (supplementary category)	☐	☐
H334 – May cause allergy or asthma symptoms or breathing difficulties if inhaled 1 / 1A / 1B	☐	☐
H370 – Specific target organ toxicity: STOT SE 1 or 2	☐	☐
H371 – Specific target organ toxicity: STOT SE 1 or 2	☐	☐
H372 – Specific target organ toxicity: STOT RE 1 or 2	☐	☐
H373 – Specific target organ toxicity: STOT RE 1 or 2	☐	☐

If the answer to any of the above questions is Yes, state the CAS no. (where possible), chemical name and level (in ppm, w% or mg / kg) of residual monomers in newly produced polymers and based on the content in the raw material. (If vinyl acetate is present in an amount over 100 ppm, please also state the amount in ppm in each polymer).

O8 Heavy metals		
Does the product contain any heavy metals (cadmium, lead, chromium VI, mercury, arsenic, barium, selenium, antimony)? *Traces of the above-mentioned metals from residuals can be included up to 100 ppm (100 mg/kg, 0.0100 w%) per single metal in the raw material.* *- Barium sulphate and other insoluble barium compounds are exempted.* *- An exception is made for antimony in pigments contained in a TiO2 rutile lattice on the following terms: test results must prove that the molecular structure is inert and that the environmental and health effects of the pigment are on the same level as, or better than, the results for C.I Pigment Brown 24 CAS no. 68186-90-3 and C.I Pigment Yellow 53 CAS no. 8007-18-9 in the report: UNEF Publications, OECD SIDS Initial Assessment Profile (www.inchem.org)*.*	Yes ☐	No ☐

If the answer to any of the above questions is Yes, state the chemical name and level (in ppm, w% or mg / kg). For antimony in pigments that are exempted by the above terms, please attach test according to test method DIN 53770-1 or equivalent, showing that terms are fulfilled).

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O9 Titanium dioxide		
Does the product contain titanium dioxide?	Yes ☐	No ☐

If yes, please state amount in w% and raw material manufacturer name. If the product contains more than 3.0 w% titanium dioxide, the raw material manufacturer must supply information in accordance with requirement O9 and O10 in the criteria document.

_____

O10 Powdered raw materials		
Have any of the raw materials used in the product been in powder form?	Yes ☐	No ☐

If yes, please attach documentation describing how powdered raw materials have been handled during the production process in accordance with requirement O10 in the criteria document.

O11 Nanomaterials/-particles		
Does the product contain nanomaterials/-particles? *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.* **The following are exempted from the requirement:** • Pigments. Nano-TiO2 is not considered a pigment. • Naturally occurring inorganic fillers in accordance with annex V point 7 in REACH. • Synthetic amorphous silica (SAS). This exemption applies to non-modified SAS. Chemically modified colloidal silica can be included in the products if the silica particles form aggregates in the final product. Surface-treated nanoparticles must fulfil requirement O3 (Classification of constituent chemical substances) and requirement O12 (Prohibited substances). • Unmodified calcium carbonate (grounded calcium carbonate, GCC) and unmodified precipitated calcium carbonate (PCC). • Polymer dispersions.	Yes ☐	No ☐

If yes, please state if one of the above exceptions apply and add additional information if needed:

_____

O12 Prohibited substances		
Does the product contain any of the following substances or substance groups?	Yes	No
If the answer to all the bulletins below is No, mark here		☐
Substances on the REACH Candidate list of SVHC: http://echa.europa.eu/candidate-list-table)	☐	☐
Substances evaluated by the EU to be persistent, bioaccumulative, and toxic (PBT) or very persistent and very bioaccumulative (vPvB), in accordance with the criteria in Annex XIII of REACH and substances that have not yet been investigated, but which meet these criteria.	☐	☐
Potential or identified endocrine disruptors according to any of the EU member state initiative "Endocrine Disruptor list" List I; List II; and/or List III • https://edlists.org/the-ed-lists/list-i-substances-identified-as-endocrine-disruptors-by-the-eu • https://edlists.org/the-ed-lists/list-ii-substances-under-eu-investigation-endocrine-disruption • https://edlists.org/the-ed-lists/list-iii-substances-identified-as-endocrine-disruptors-by-participating-national-authorities • Substances on the List II sublist "Substances no longer on list"? https://edlists.org/the-ed-lists/substances-no-longer-on-list-ii *If Yes, please write chemical name and CAS no. below. Nordic Ecolabelling will evaluate the circumstances on a case-by-case basis, through the background information indicated for the substance on the sublist.* • *2,2-dibromo-2-cyanoacetamide (DBNPA) used for disinfecting process water is exempted from the requirement as it is not constituent or part of the manufacturing of the product.* • *Butylated hydroxytoluene (BHT, CAS. no 128-37-0) is exempted up to 100 ppm in the final product.* _____	☐	☐
Organotin compounds	☐	☐
Phthalates Esters of phthalic acid (ortho-phthalic acid / phthalic acid / 1,2- benzene dicarboxylic acid)	☐	☐
Bisphenols and bisphenol derivatives: *EC/List No. 201-245-8 (BPA), 201-025-1 (BPB), 401-720-1 (4,4'-Isobutylethylidenediphenol), 216-036-7 (BPAF) and its 8 salts (278-305-5; 425-060-9; 443-330-4; 468-740-0; 469-080-6; 479-100-5; 943-265-6; 947-368-7), 201-250-5 (BPS), 201-240-0 (BPC), 204-279-1 (TBMD), 201-618-5 (6,6'-di-tert-butyl-4,4'-butylidenedi-m-cresol), 242-895-2, 248-607-1, 405-520-5 (D8), 217-121-1 (DAB), 227-033-5 (TMBPA), 210-658-2 (BPF), 411-570-9, 277-962-5 (contains BPS, 500-086-4 (contains BPA), 500-263-6 (contains BPA), 500-607-5 (contains BPA), 701-362-9, 904-653-0 (contains BPA), 908-912-9 (contains BPF), 926-571-4 (contains BPA), 931-252-8 (contains BPA), 941-992-3 (contains BPS), 943-503-9 (contains BPA).*	☐	☐
APEO – alkylphenol ethoxylates and alkylphenol derivatives (substances that release alkylphenols on degradation).	☐	☐
Perfluorinated and polyfluorinated alkyl substances (PFAS)	☐	☐
Halogenated organic substances Exempted* are: • Preservatives that fulfil O5 • Paint pigments that meet the EU's requirements concerning colourants in food packaging under Resolution AP (89) point 2.5 and • dries in oxidative drying paints (note: see O3). ** Perfluorinated and polyfluorinated alkyl substances are covered by their own bulletin and are not included in this exemption.*	☐	☐
Isocyanates Water-based polyisocyanates with a chain length of more than 10 are exempted, where the concentration of isocyanates with a chain length of less than 10 as an impurity is documented.	☐	☐

Fragrances	☐	☐

If the answer to any of the above questions is Yes, state the CAS no. (where possible), chemical name and level (in ppm, w% or mg / kg). If an exemption applies as above, please attach document as appropriate.

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O13 Emissions of Volatile and Semi-Volatile Organic Compounds in indoor paints and varnishes		
Please state: Product description (with subcategory denotation according to Directive 2004/EC):	Yes	No
a. Interior matt walls and ceilings (Gloss < 25@60°)	☐	☐
b. Interior glossy walls and ceilings (Gloss > 25@60°)	☐	☐
d. Interior trim and cladding paints for wood and metal	☐	☐
e. Interior trim varnishes and woodstains, including opaque woodstains	☐	☐
f. Interior and Exterior minimal build woodstains	☐	☐
g. Primers	☐	☐
h. Binding primers	☐	☐
i. One-pack performance coatings	☐	☐
j. Two-pack reactive performance coatings for specific end use such as floors	☐	☐
l. Decorative effect coatings	☐	☐
Does the emission of the final product meet the emission limits as stated in **Table 10** of requirement O13? Please attach test report in accordance with EN 16516, EN 16402 or other equivalent standardised test conditions and determination methods. TVOC and TSVOC are defined as stated in EN 16516 and carcinogenic 1A and 1B VOCs are listed in Annex H of EN 16516.	☐	☐
O14 Content of Volatile and Semi-volatile Organic Compounds in paints and varnishes		
Please state: Product description (with subcategory denotation according to Directive 2004/EC):	Yes	No
c. Exterior walls of mineral substrate	☐	☐
d. Exterior trim and cladding paints for wood and metal	☐	☐
e. Exterior trim varnishes and wood stains, including opaque wood stains	☐	☐
f. Exterior minimal build wood stains	☐	☐
g. Primers	☐	☐
h. Binding primers	☐	☐
i. On pack performance coatings	☐	☐
j. Two-pack reactive performance coatings for specific end use such as floors	☐	☐
Please state: Product description for products falling outside of the scope of Directive 2004/42/EC	Yes	No
Industrial paints and varnishes	☐	☐
Industrial paints and varnishes for outdoor use	☐	☐
Industrial anti-corrosion paints	☐	☐
Definitions of VOC and SVOC Volatile organic compounds (VOC) mean any organic compounds having an initial boiling point less than or equal to 250 °C measured at a standard pressure of 101,3 kPa as defined in Directive 2004/42/EC and which, in a capillary column, are eluting up to and including n-Tetradecane (C14H30).	☐	☐

Semi volatile organic compounds (SVOCs) mean any organic compound having a boiling point greater than 250 °C and less than 370 °C measured at a standard pressure of 101,3 kPa and which, in a capillary column are eluting with a retention range after n-Tetradecane (C14H30) and up to and including n-Docosane (C22H46).		

Please state the VOC content in g/l ready-to-use of the final product in accordance with ISO 11890-2*.

_____

Please state the SVOC content in g/l ready-to-use of the final product in accordance with ISO 11890-2*.

_____

* Attach ISO 11890-2 test report for the final product or calculation based on all ingoing raw materials.

O15 Volatile Aromatic Compounds		
Please state the following:	Yes	No
Does the product contain any Volatile Aromatic Compounds (VAC)? *Volatile aromatic compounds are volatile organic compounds where one or more benzene rings are contained within the molecule.*	☐	☐
If yes, please state if actively added or as a residue in ppm: _____		
O16 Acrylic and alkyd resin binders		
Please state the following:	Yes	No
Does the product contain acrylic resins*? ** Synthetic resin resulting from the polymerization or copolymerization of acrylic and/or methacrylic monomers, frequently together with other monomers e.g., styrene.*	☐	☐
Is the acrylic resin based on renewable raw material or feedstock?	☐	☐
Does the product contain alkyd resins?	☐	☐

If the answer to the above questions is Yes, state the proportion of acrylic/alkyd resins made from renewable raw material. Please attach enclosed procedures for policy or equivalent documentation of the work with environmental goals, showing fulfilment of the requirement. The manufacturer of the raw material must enclose documentation in accordance with the requirement and appendix 2 and documentation showing valid certificates if palm oil is used for acrylic resins.

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Place and date:	**Company name/stamp:**
Responsible person:	**Signature of responsible person:**
Phone:	**Email:**

Appendix 2 Declaration from the manufacturer of the raw material

To be used in conjunction with an application for a licence for the Nordic Ecolabelling of paints and varnishes.

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

For suppliers: If you do not have knowledge about the complete composition of the raw material/ingredient you are obliged to obtain this information from the manufacturer.

Raw material name: _____

Raw material's function: _____

The requirements in the criteria document and accompanying appendices apply to all ingoing substances in the Nordic Swan Ecolabelled product. Impurities are not regarded as ingoing substances and are exempt from the requirements.

Ingoing substances and impurities are here defined as below, unless stated otherwise in the requirements. Be aware that these are not the same definitions as in REACH ((EU) 1907/2006) and CLP ((EU) 1272/2008).

Ingoing substances: all substances in the Nordic Swan Ecolabelled product regardless of amount, including additives (e.g., preservatives and stabilizers) in the raw materials. Substances known to be released from ingoing substances (e.g., formaldehyde, arylamine, in situ-generated preservatives) are also regarded as ingoing substances.

Impurities: residuals, pollutants, contaminants etc. from production, incl. production of raw materials, that remain in the Nordic Swan Ecolabelled product in concentrations less than 100 ppm (0,0100 w%).

Impurities in the raw materials exceeding concentrations of 10 000 ppm (1.0000 w%) are always regarded as ingoing substances, regardless of the concentration in the Nordic Swan Ecolabelled product.

Examples of impurities are residues of the following: residues or reagents incl. residues of monomers, catalysts, by-products, scavengers, and detergents for production equipment and carry-over from other or previous production lines.

The impurity limit of 100 ppm (0.0100 w%) applies to each individual substance that is excluded, i.e., Impurities with the same classification in different raw materials shall not be summed up to comply with the limit. The same contaminants in different raw materials also do not need to be summed.

O3 Classification of ingoing substances		
Does the raw material contain substances classified with any of the hazard phrases below? *Including all combinations of stated exposure routes and stated specific effect. For example, H350 also covers classification H350i.*	Yes	No
If the answer to all the classifications below is No, mark here		☐
H350 – May cause cancer, hazard category 1A and 1B	☐	☐
H351 – Suspected of causing cancer, hazard category 2	☐	☐
H340 – May cause genetic defects, hazard category 1A and 1B	☐	☐
H341 – May cause genetic defects, hazard category 2	☐	☐
H360 – Toxic for reproduction, hazard category 1A and 1B	☐	☐
H361 – Toxic for reproduction, hazard category 2	☐	☐
H362 – Toxic for reproduction, effects on or through breastfeeding (supplementary category)	☐	☐
H334 – May cause allergy or asthma symptoms or breathing difficulties if inhaled 1 / 1A / 1B	☐	☐
H370 – Specific organic toxicity, STOT SE 1	☐	☐
H372 – Specific organic toxicity, STOT RE 1	☐	☐
EUH380 – Endocrine disruption for human health, category 1	☐	☐
EUH381 – Endocrine disruption for human health, category 2	☐	☐
EUH430 – Endocrine disruption for the environment, category 1	☐	☐
EUH431 – Endocrine disruption for the environment, category 2	☐	☐
EUH440 – Persistent, Bioaccumulative and Toxic properties	☐	☐
EUH441 – Very Persistent, Very Bioaccumulative properties	☐	☐
EUH450 – Persistent, Mobile, and Toxic properties	☐	☐
EUH451 – Very Persistent, Very Mobile properties	☐	☐

If the answer to any of the above questions is Yes, state the CAS no. (where possible), chemical name and level (in ppm, w% or mg / kg). Also state whether the substance is contained in the form of an impurity or an added substance. If it is residual monomers in polymers, please state in point O7 instead.

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O4 Environmentally harmful substances		
Does the raw material contain any substances classified as harmful to the environment with the following risk phrases or combinations of them?	Yes	No
H410 – Toxic to aquatic life, Chronic 1	☐	☐
H411 – Toxic to aquatic life, Chronic 2	☐	☐
H412 – Toxic to aquatic life, Chronic 3	☐	☐

If the answer to any of the above questions is Yes, state the CAS no. (where possible), chemical name and level (in ppm, w% or mg / kg). Also state whether the substance is a preservative.

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O5 Preservatives		
Please state:	Yes	No
Does the product contain any preservatives?	☐	☐
If yes, please state: Does the preservatives comply with product-type 6 and product-type 7 according to Regulation (EU) No 528/2012 (The Biocidal Products Regulation)?	☐	☐

If the answer to any of the above questions is Yes, state the CAS no. (where possible), chemical name and level (in ppm, w% or mg / kg) for each preservative.

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O6 Formaldehyde		
Please state:	Yes	No
Does the raw material contain formaldehyde or formaldehyde releasing agents?	☐	☐
If yes, please specify source of formaldehyde, i.e., actively added or because of release or decomposition from another substance and theoretical amount of formaldehyde in the raw material:		

_____

_____

O7 Residual monomers		
Does the raw material contain residual monomers in polymers present in product > 1% classified with any of the hazard phrases below? Including all combinations of stated exposure routes and stated specific effect. For example, H350 also covers classification H350i.	Yes	No
If the answer to all the classifications below is No, mark here		☐
H350 – May cause cancer, hazard category 1A and 1B	☐	☐
H351 – Suspected of causing cancer, hazard category 2	☐	☐
H340 – May cause genetic defects, hazard category 1A and 1B	☐	☐
H341 – May cause genetic defects, hazard category 2	☐	☐
H360 – Toxic for reproduction, hazard category 1A and 1B	☐	☐
H361 – Toxic for reproduction, hazard category 2	☐	☐
H362 – Toxic for reproduction, effects on or through breastfeeding (supplementary category)	☐	☐
H334 – May cause allergy or asthma symptoms or breathing difficulties if inhaled 1 / 1A / 1B	☐	☐
H370 – Specific target organ toxicity: STOT SE 1 or 2	☐	☐
H371 – Specific target organ toxicity: STOT SE 1 or 2	☐	☐
H372 – Specific target organ toxicity: STOT RE 1 or 2	☐	☐
H373 – Specific target organ toxicity: STOT RE 1 or 2	☐	☐

If the answer to any of the above questions is Yes, state the CAS no. (where possible), chemical name and level (in ppm, w% or mg / kg) of residual monomers in newly produced polymers and based on the

content in the raw material. (If vinyl acetate is present in an amount over 100 ppm, please also state the amount in ppm in each polymer).

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O8 Heavy metals		
Please state:	Yes	No
Does the raw material contain any heavy metals (cadmium, lead, chromium VI, mercury, arsenic, barium, selenium, antimony)? *Traces of the above-mentioned metals from residuals can be included up to 100 ppm (100 mg/kg, 0.0100 w%) per single metal in the raw material.* *- Barium sulphate and other insoluble barium compounds are exempted.* *- An exception is made for antimony in pigments contained in a TiO2 rutile lattice on the following terms: test results must prove that the molecular structure is inert and that the environmental and health effects of the pigment are on the same level as, or better than, the results for C.I Pigment Brown 24 CAS no. 68186-90-3 and C.I Pigment Yellow 53 CAS no. 8007-18-9 in the report: UNEF Publications, OECD SIDS Initial Assessment Profile (www.inchem.org)*.*	☐	☐

If the answer to any of the above questions is Yes, state the chemical name and level (in ppm, w% or mg / kg). For antimony in pigments that are exempted by the above terms, please attach test according to test method DIN 53770-1 or equivalent, showing that terms are fulfilled).

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O9 Titanium dioxide		
Does the raw material contain titanium dioxide?	Yes ☐	No ☐
As the supplier of TiO2 for paints and varnishes that comply with the Nordic Swan, I hereby declare that: I the undersigned, undertake to formally respect the following values, concerning the production of Titanium dioxide on the following site(s): **Sulphate process** / **Limit** SOx expressed as SO2: 7.0 kg/tonne TiO2 Sulphate waste: 500 kg/tonne TiO2 **Chloride process** / **Limit** When using natural ore: 103 kg chloride waste/tonne TiO2 When using synthetic ore: 179 kg chloride waste/tonne TiO2 When using slag ore: 329 kg chloride was/tonne TiO2 If more than one type of ore is used, the values apply proportionately to the ore type used.	☐	☐
As the supplier of TiO2 for paints and varnishes that comply with the Nordic Swan, I hereby declare that: I the undersigned, will attach document that shows that the manufacturing plant has full or pending implementation of an energy management system in accordance with ISO 50 001.	☐	☐

As the supplier of TiO2 for paints and varnishes that comply with the Nordic Swan, I hereby declare that: I the undersigned, will attach document to support how the raw material is added in closed systems, or in means of methods to promote a “low-dust” working environment.	☐	☐

If yes, please state amount in w%. If the product contains more than 3.0 w% titanium dioxide, the raw material manufacturer must supply documentation in accordance with requirement O9 and O10 in the criteria document.

O11 Nanomaterials/-particles		
Does the raw material contain nanomaterials/-particles? *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.* **The following are exempted from the requirement:** • Pigments. Nano-TiO2 is not considered a pigment. • Naturally occurring inorganic fillers in accordance with annex V point 7 in REACH. • Synthetic amorphous silica (SAS). This exemption applies to non-modified SAS. Chemically modified colloidal silica can be included in the products if the silica particles form aggregates in the final product. Surface-treated nanoparticles must fulfil requirement O3 (Classification of constituent chemical substances) and requirement O12 (Prohibited substances). • Unmodified calcium carbonate (grounded calcium carbonate, GCC) and unmodified precipitated calcium carbonate (PCC). • Polymer dispersions.	Yes ☐	No ☐

If yes, please state if one of the above exceptions apply and add additional information if needed:

_____

_____

O12 Prohibited substances		
Does the raw material contain any of the following substances or substance groups?	Yes	No
If the answer to all the bulletins below is No, mark here		☐
Substances on the REACH Candidate list of SVHC: http://echa.europa.eu/candidate-list-table)	☐	☐
Substances evaluated by the EU to be persistent, bioaccumulative, and toxic (PBT) or very persistent and very bioaccumulative (vPvB), in accordance with the criteria in Annex XIII of REACH and substances that have not yet been investigated, but which meet these criteria.	☐	☐
Potential or identified endocrine disruptors according to any of the EU member state initiative “Endocrine Disruptor list” List I; List II; and/or List III • https://edlists.org/the-ed-lists/list-i-substances-identified-as-endocrine-disruptors-by-the-eu • https://edlists.org/the-ed-lists/list-ii-substances-under-eu-investigation-endocrine-disruption • https://edlists.org/the-ed-lists/list-iii-substances-identified-as-endocrine-disruptors-by-participating-national-authorities	☐	☐

• Substances on the List II sublist “Substances no longer on list”? https://edlists.org/the-ed-lists/substances-no-longer-on-list-ii *If Yes, please write chemical name and Cas no. below. Nordic Ecolabelling will evaluate the circumstances on a case-by-case basis, through the background information indicated for the substance on the sublist.* • *2,2-dibromo-2-cyanoacetamide (DBNPA) used for disinfecting process water is exempted from the requirement as it is not constituent or part of the manufacturing of the product.* • *Butylated hydroxytoluene (BHT, CAS. no 128-37-0) is exempted up to 100 ppm in the final product.* _____		
Organotin compounds	☐	☐
Phthalates Esters of phthalic acid (ortho-phthalic acid / phthalic acid / 1,2- benzene dicarboxylic acid)	☐	☐
Bisphenol and bisphenol derivatives: *EC/List No. 201-245-8 (BPA), 201-025-1 (BPB), 401-720-1 (4,4'-Isobutylethylidenediphenol), 216-036-7 (BPAF) and its 8 salts (278-305-5; 425-060-9; 443-330-4; 468-740-0; 469-080-6; 479-100-5; 943-265-6; 947-368-7), 201-250-5 (BPS), 201-240-0 (BPC), 204-279-1 (TBMD), 201-618-5 (6,6'-di-tert-butyl-4,4'-butylidenedi-m-cresol), 242-895-2, 248-607-1, 405-520-5 (D8), 217-121-1 (DAB), 227-033-5 (TMBPA), 210-658-2 (BPF), 411-570-9, 277-962-5 (contains BPS, 500-086-4 (contains BPA), 500-263-6 (contains BPA), 500-607-5 (contains BPA), 701-362-9, 904-653-0 (contains BPA), 908-912-9 (contains BPF), 926-571-4 (contains BPA), 931-252-8 (contains BPA), 941-992-3 (contains BPS), 943-503-9 (contains BPA).*	☐	☐
APEO – alkylphenol ethoxylates and alkylphenol derivatives (substances that release alkylphenols on degradation).	☐	☐
Perfluorinated and polyfluorinated alkyl substances (PFAS)	☐	☐
Halogenated organic substances Exempted* are: • Preservatives that fulfil O5 • Paint pigments that meet the EU’s requirements concerning colourants in food packaging under Resolution AP (89) point 2.5 and • dries in oxidative drying paints (note: see O3). ** Perfluorinated and polyfluorinated alkyl substances are covered by their own bulletin and are not included in this exemption.*	☐	☐
Isocyanates Water-based polyisocyanates with a chain length of more than 10 are exempted, where the concentration of isocyanates with a chain length of less than 10 as an impurity is documented.	☐	☐
Fragrances	☐	☐

If the answer to any of the above questions is Yes, state the CAS no. (where possible), chemical name and level (in ppm, w% or mg / kg). If an exemption applies as above, please attach document as appropriate.

_____

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O14 Content of Volatile and Semi-volatile Organic Compounds in paints and varnishes		
Please state:	Yes	No
Does the raw material contain any VOC and/or SVOC? If the content of SVOC is unknown, please state this	☐	☐
Definitions of VOC and SVOC Volatile organic compounds (VOC) mean any organic compounds having an initial boiling point less than or equal to 250 °C measured at a standard pressure of 101,3 kPa as defined in Directive 2004/42/EC and which, in a capillary column, are eluting up to and including n-Tetradecane (C14H30). Semi volatile organic compounds (SVOCs) mean any organic compound having a boiling point greater than 250 °C and less than 370 °C measured at a standard pressure of 101,3 kPa and which, in a capillary column are eluting with a retention range after n-Tetradecane (C14H30) and up to and including n-Docosane (C22H46).		

Please state the VOC content in g/l:

_____

Please state the SVOC content in g/l:

_____

O15 Volatile Aromatic Compounds		
Please state the following:	Yes	No
Does the product contain any Volatile Aromatic Compounds (VAC)? *Volatile aromatic compounds are volatile organic compounds where one or more benzene rings are contained within the molecule.*	☐	☐
If yes, please state if actively added or as a residue in ppm: _____		

O16 Acrylic and alkyd resin binders		
Please state the following:	Yes	No
Does the raw material contain acrylic resins*? * Synthetic resin resulting from the polymerization or copolymerization of acrylic and/or methacrylic monomers, frequently together with other monomers e.g., styrene.	☐	☐
Does the raw material contain alkyd resins?	☐	☐
If the raw material does not contain acrylic or alkyd resins, disregard the following requirements. If the raw material contains acrylic or alkyd resins, please state the origin of renewable raw material in the raw material (e.g., castor oil, soybean oil, palm oil…) If the acrylic resin raw material contains palm oil (incl. by-products and waste fractions), please submit an RSPO-certificate. Alkyd resins may not contain renewable raw materials from palm oil. _____ _____		
Please state where the renewable raw materials used in the binder are derived from:		
No traceability	☐	
Primary feedstock	☐	

Residue	☐	
Waste	☐	
	Yes	No
Is the renewable raw material sustainability certified?	☐	☐
If yes, state the raw material sustainability certification system: _____		
If a raw material sustainability certification system is used, state the level of traceability (shown in a Chain of Custody certificate where applicable) _____		
No traceability	☐	
Identity preserved	☐	
Segregated	☐	
Mass Balance	☐	
Book & Claim	☐	

O17 Cement/Hydraulic binder		
Please state the following:	Yes	No
Does the raw material contain cement or alternative hydraulic binder?	☐	☐

If the answer to the above question is Yes, the raw material manufacturer must enclose documentation in accordance requirement O17 of the criteria document showing that the requirements are met.

_____

Place and date:	**Company name/stamp:**
Is the company a manufacturer or other kind of supplier of the raw material? ☐ Manufacturer ☐Other kind of supplier (please specify)	
Responsible person:	**Signature of responsible person, electronic signature is accepted:**
Phone:	**Email:**

Appendix 3 Example of recipe structure

Example of recipe structure to be used when applying for the Nordic Ecolabelling of indoor and outdoor paints and varnishes.

Paint or varnishes Name: <name>										
Raw material reference number	**Comp-any name**	**Raw materi-al name**	**Funct-ion in the paint**	**CAS No.**	**Substance content**	**% Substance**	**Cas No.**	**Classification per substance**	**Raw material content in the paint/varnis h**	**Substance content in the paint/varn-ish**
1…	-	Water	Solven t	7732 -18-5	Water	100,000	7732 -18-5	-Not Classified (NC)	14,97	14,9700
2…	Xxx	Xxx	pH regulat or	1310 -73-2	Sodium hydroxide	95,000	1310 -73-2	H314	9	8,5500
					Water	5,000	7732 -18-5	NC		0,4500
3…	Xxx	Xxx	Disper -sing agent	-	Acrylic resins	30,000	-	NC	7	2,1000
					Water	69,995	7732 -18-5	NC		4,9000
					1,2-Benzisothi-azol-3(2H)-one	0,005	2634 -33-5	H314, H317, H412		0,0004
And so on										

Appendix 4 Requirements on the analysis laboratory

The analysis laboratory used shall be certified according to 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.