Nordic Ecolabelling of

Laundry detergents for professional use



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Nordic Ecolabelling

Content

What is a Nordic Ecolabelled laundry detergent for professional use? 4

Why choose the Nordic Ecolabel? 5

What can carry the Nordic Ecolabel? 5

How to apply 6

What are the requirements of the Nordic Ecolabelling? 7

1 Environmental requirements 8
2 Quality and regulatory requirements 19

Marketing 20

Design of the Nordic Ecolabel 21

Follow-up inspections 21

How long is a licence valid? 21

New criteria 22

Terms and definitions 23

Appendix 1 Declaration by the laundry detergent manufacturer/ supplier on the contents of the product
Appendix 2 Appendix 2 Declaration by the manufacturer/ supplier on the contents of the raw material
Appendix 3 Parameters and formulae
Appendix 4 Analysis and test laboratories
Appendix 5 Requirements concerning the user test (O20)
Appendix 6 Marketing of Nordic Ecolabelled Laundry detergents for professional use
Appendix 7 Translation key for CLP (classification, labelling and packaging)

Laundry detergents for professional use, version 3.0, 28 June 2013

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

Addresses

In 1989, the Nordic Council of Ministers decided to introduce a voluntary official ecolabel, the Swan. 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 Ecolabelled laundry detergent for professional use?

Laundry detergents for professional use are a large product group on the Nordic market. Nordic Ecolabelled laundry detergents for professional use are some of the least environmentally harmful products in the detergent area, because they meet stringent requirements concerning the environmental and health properties of the constituent substances and requirements relating quality and performance.

Laundry detergents for professional use are primarily used in commercial laundries, hotels and hospitals, but also in study centres, restaurants and communal laundries.

Professional laundering generally takes place at higher temperatures with more effective, highly alkaline detergents, and using larger and more efficient washing machines than consumer laundering. High wash temperatures require a lot of energy, and thereby have greater environmental impact. The manufacturer must document the effectiveness of the products at 60 °C for heavy degree of soiling and 40 °C for medium and light degree of soiling (O20), and wash effectiveness must be shown at the same dosage recommended for the different degrees of soiling.

When laundry detergents are used, chemicals are discharged to the wastewater, which after treatment is returned to the environment. There is also a risk that detergent residues remain in the washed fabrics, and so substances that are allergenic and harmful to health should be limited as far as possible.

It is therefore important that requirements regarding the properties of Nordic Ecolabelled laundry detergents for professional use:

- limit the content of substances that are harmful to the environment and health
- prohibit substances that are not readily degraded in the environment or that are bioaccumulative or toxic
- prohibit fragrances and restrict the content of preservatives
- ensure similar effective laundering to that of comparable products with the same function
- ensure effective laundering at low wash temperature where possible, without compromising the chemistry or wash time of the product
- have an optimal dosage that is checked through regular customer visits by the supplier of chemicals to the laundries
- have packaging with little environmental impact

Why choose the Nordic Ecolabel?

- Enterprises that manufacture laundry detergents for professional use may use the Nordic Ecolabel trademark, the Swan, in their marketing of the product. The Nordic Ecolabel is well-reputed and well-known in the Nordic region.
- The Nordic Ecolabel is a cost-effective and simple way of communicating, to customers and suppliers, environmental work and environmental commitment.
- Business activities that are adapted to the environment often provide scope for reducing costs by, for example, reducing the use of environmentally harmful chemicals, energy, and water, and reducing the quantity of waste.
- Environmental issues are complex, and it can take a long time to gain an understanding of specific issues. Nordic Ecolabelling can be seen as a guide to this work. The Nordic Ecolabel not only sets requirements relating to the environment and health, but also in relation to quality, as environment and quality often go hand-in-hand. This means that a Nordic Ecolabel licence can also been seen as a mark of quality.

What can carry the Nordic Ecolabel?

The phrase "laundry detergents for professional use" refers to products intended for washing fabrics in water, and that are intended for use by large-scale consumers and professional users. The criteria apply to both complete powders and complete liquid laundry detergents, and multi-component systems. Fabric softeners and stain removing agents may also be Nordic Ecolabelled when they are constituents of a multi-component system.

Only products that are primarily intended for washing in soft water (0-6 °dH) may be awarded the Nordic Ecolabel.

Multi-component systems are detergent systems based on the use of various components to form a complete detergent, a stock solution, or a wash programme for automatic dosing. This type of system may include several products, such as pre-wash agent, main detergent, wash booster, bleaching agent, fabric conditioner, and detergent for delicate fabrics.

The criteria apply to all products that come into contact with the laundry during washing, but do not apply to special impregnating agents that have, for example, a water-repelling or flame-retardant function. The criteria do not apply to dyes.

Products that are intended, wholly or partly, for consumers, and that are wholly or partly sold in retail outlets, cannot be awarded the Nordic Ecolabel in accordance with these criteria.

For these types of products, the criteria document "Nordic Ecolabelling of laundry detergents and stain removers", Version 6.0 or later, applies.

How to apply

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

Icons in the text

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

🔑 The requirement checked on site

🕮 Enclose procedure in environmental and quality management system

Application

The application shall be sent to Nordic Ecolabelling in the country in which XX is sold/the applicant carries on activities. See page 2 for addresses. The application documents comprise an application form and documentation demonstrating fulfilment of the requirements (specified in the criteria).

Further information and assistance may be available. Visit the Web site of the national ecolabelling body for more information.

Sales in other Nordic countries

Registering a licence in another Nordic country allows the Nordic Ecolabel to be used on a larger market. The following must be submitted to Nordic Ecolabelling:

- Form for sales in other Nordic countries.
- Instruction manual in the local language.
- Documentation demonstrating the fulfilment of national regulations.
- Documentation detailing for which recycling system XX is designed.

Registration is free of charge but an annual fee shall be paid in accordance with the national regulations.

On-site inspection (for criteria in which it is always required)

In connection with handling of the application, Nordic Ecolabelling 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.

Costs

An application fee is charged to companies applying for a licence. There is an additional annual fee based on the turnover of the Nordic Ecolabelled XX.

Enquiries

Please contact Nordic Ecolabelling if you have any queries or require further information. See page 2 for addresses.

What are the requirements of the Nordic Ecolabelling?

To be awarded a Nordic Ecolabel licence, all requirements must be fulfilled.

In order to be granted a Nordic license, the following documentation must be attached to the application: (adapted to each product group.)

- Documentation demonstrating compliance with any national regulations/special requirements.
- User instructions in all relevant languages.
- A copy of labels in all relevant languages.
- Documentation demonstrating compliance with national rules and laws, as well as any industry agreements on return systems for packaging.

1 Environmental requirements

Environmental requirements are divided into two parts - general requirements and total content of substances harmful to the environment.

Chapter 1.1, 'General Requirements', contains requirements that must be fulfilled by all products and all components in a multi-component system, and apply to all constituent substances unless stated otherwise.

Chapter 1.2, 'Total content of environmentally hazardous substances', contains requirements that apply to the total environmental impact in a complete laundry detergent or in a multi-component system.

Unless otherwise specified, the term 'constituent substances' refers to all substances in products, including additives in the raw materials (e.g. preservatives and stabilisers), but not impurities from primary production. Impurities comprise residues from primary production that may be found in the laundry detergent at concentrations below 100 ppm (0.0100% by weight, 100 mg/kg) Substances that are added to an ingredient, deliberately or for a purpose, are not regarded as impurities, regardless of concentration. Impurities at concentrations greater than 1.0% in the ingredient are regarded as constituent substances. Substances/products known to be liberated by a constituent substance are also regarded as constituent substances.

There are two alternative levels for recommended wash temperature, A and B (see Table 8). Wash effectiveness for alternatives A or B, at various levels of soiling (light, medium, heavy) must be documented in accordance with requirement O20, Effectiveness.

The manufacturer must report whether the products have the following recommended wash temperatures according to the alternatives in the table below:

Table 1 – Alternatives for recommended wash temperature

40	Recommended maximum wash temperature	CDV requirements	Phosphonate content	Effectiveness
A	40-60°C*	Table 15	Alternative A, Table 22	R20 in relation to temperature.
B	30-40°C**	Table 16	Alternative B, Table 22	R20 in relation to temperature.

** 40°C for light and medium soiling, 60°C for heavy soiling.*

*** 30°C for light and medium soiling, 40°C for heavy soiling.*

If the product or multi-component system is marketed with a disinfecting function (chemothermal), this must also be shown. For these types of products, the maximum permitted recommended wash temperature is 60°C, or it can be documented at 40°C

Manufacturers set their own limits for CDV (O14) and phosphonates (O18) in relation to temperature recommended for chemothermal disinfection. In addition, effectiveness of disinfection must be documented with the manufacturer's own method in O21. The products effectiveness must also be documented by method in O20.

Table 10 – Additional requirements for laundry detergents with disinfectant properties

Maximum wash temperature	CDV requirements	Phosphonate content	Effectiveness test
60°C	19 000	0.15	R21
40°C	70 000	0.30	R21

The requirements are based on recommended dosage, expressed in grams of laundry detergent/kg laundry, and vary in accordance with the estimated degree of soiling of the laundry.

1.1 General requirements (apply to all products and all components in a multi-component system)

O1 Description of product

In the application for the Nordic Ecolabel licence, the applicant must provide detailed information about the product and the packaging of the individual product. The following information must be provided:

- Manufacturer's name and address (manufacturer of the product)
- Technical description of the product/products (type of detergent, description of components in a multi-component system), dosage for different degrees of soiling, maximum recommended wash temperature at different degrees of soiling).
- Complete formulation for the product/all components in a multi-component system, and the information must be sent to Nordic Ecolabelling (see O2).
- Description of the product's packaging.

✉ Product manufacturer (name and address)

✉ Technical description of the product in relation to the requirement (product type, dosage at different degrees of soiling, recommended wash temperature at different degrees of soiling).

✉ Complete formulation with trade name, chemical name, quantity, CAS number and DID number for every ingredient, constituent quantities including and excluding water, and function of all constituent substances.

✉ The DID number is the number of the ingredient on the DID List, which is used in calculation of chemical requirements. The DID List can be obtained from the Nordic Ecolabelling home page, see addresses on page 2.

✉ Description of the product's packaging.

O2 Formulation

A complete formulation for the product / all components in a multi-component system must be sent to Nordic Ecolabelling. For each ingredient, the formulation must contain:

- trade name
- chemical name
- quantity (% by weight)
- CAS number
- DID number

Water content and function of the ingredient/raw material must be shown.

The DID number is the number of the ingredient on the DID List, which is used in calculation of chemical requirements. The DID List can be obtained from the Nordic Ecolabel home page, see addresses on page 2.

☒ Complete formulation in accordance with the requirement.

☒ Safety data sheet/product data sheet in line with applicable legislation in the country of application, e.g. Annex II to REACH (Regulation 1907/2006/EC) for each product and each ingredient.

O3 Classification of the product

The product must not be classified in accordance with hazard classes and risk phrases in Table 3.

Table 3 - Classification

Hazard class	**Hazard category and code / hazard symbols and R phrases**	
	CLP Regulation 1272/2008	EU Dangerous Substances Directive 67/548/EEC[1]
Dangerous for aquatic environments	Aquatic acute 1 H400 Aquatic chronic 1-4: H410, H411, H412, H413	N with R50, R50/53 or R51/53. R52, R53 or R52/53 without N.
Acute toxicity Specific target organ toxicity - single exposure	Acute toxicity 1, 2: H330, H300 STOT SE 1: H370	T+ with R26, R27, R28 and/or R39
Acute toxicity Specific target organ toxicity - single and repeated exposure	Acute toxicity 2, 3: H301, H330, H331 STOT SE 1: H370 STOT RE 1: H372	T with R23, R24, R25, R39 and/or R48
Harmful to health*	Acute toxicity 4: H332, H312 STOT RE 2: H373 STOT SE 2: H371 Asp. Tox. 1: H304 (R65)	Xn with R20, R21, R48, R65 and/or R68
Sensitising on inhalation or skin contact**	Resp. Sens. 1 H334 Skin Sens. 1 H317	Xn with r42 and/or Xi with r43
Carcinogenic properties	Carc. 1A, 1B, 2A, 2B, 2: H350, H350i, H351	T with R45 and/or R49 (Carc1 or Carc2) or Xn with R40 (Carc3)
Mutagenic	Muta. 1B, 2 H340, H341	T with R46 (Mut1 or Mut2) or Xn with R68 (Mut3)
Toxic for reproduction	Repr. 1A, 1B: H360FD Repr. 2: H361fd STOT RE 2: H373 Lact.: H362	T with R60, R61, R64 and/or R33 (Rep1 or Rep2) or Xn with R62, R63, R64 and/or R33 (Rep3)

[1] *Applicable in the transition period to Regulation no. 1272/2008 from December 2010 until June 2015.*

** Exemptions are products where the classification relates to the content of oxalic acid (CAS 144-62-7) or peracetic acid (CAS 79-21-0).*

*** Exemptions are products that are classified Resp.Sens. 1 H334 og/eller Skin Sens. 1 H317 / Xn with R42 and/or R43 because of enzyme content. However, this assumes that the enzymes are encapsulated or in a slurry.*

The classification applies under the Directives 67/548/EEC and 1999/45/EU as amended and adapted, and the CLP Regulation (EC) No 1272/2008 in a transition period until 1 June 2015.

☒ Safety data sheet/product data sheet in line with applicable legislation in the country of application, e.g. Annex II to REACH (Regulation 1907/2006/EC) for each product.

O4 Classification of constituent substances in the product

Constituent substances in the products must not be classified according to hazard classes and risk phrases in Table 4.

Table 4 – Classification of constituent substances

Hazard class	CLP Regulation 1272/2008	EU Dangerous Substances Directive 67/548/EEC
Allergenic*	Resp. Sens. 1 H334 Skin Sens. 1 H317	Xn; R42 and/or Xi; R43
Carcinogenic properties**	Carc. 1A, 1B; H350, H350i Carc. 2; H351	T; R45 and/or R49 (Carc1 or Carc2) or Xn; R40 (Carc3)
Mutagenic	Muta 1B, 2; H340 H341	T; R46 (Mut1 or Mut2) or Xn; R68 (Mut3)
Toxic for reproduction	Repr. 1A, 1B; H360FD Repr. 2; H361fd STOT RE 2; H373 Lact.: H362	T; R60, R61, R64 and/or R33 (Rep1 or Rep2) or Xn; R62, R63, R64 and/or R33 (Rep3)

** Enzymes and preservatives are exempted from this requirement. See Own Requirements for enzymes and preservatives.*

*** NTA (nitrilotriacetate, CAS no. 139-13-9) as synthesis residue/impurity. See O7 regarding permitted amount of NTA as synthesis residue/impurity.*

☒ Safety data sheet/product data sheet for all constituent raw materials (in all products) according to applicable legislation in the country of application, e.g. Annex II to REACH (Regulation 1907/2006/EC).

☒ Completed and signed declaration from the manufacturer (Appendix 1)

☒ Completed and signed declaration from the raw material supplier (Appendix 2)

O5 Surfactants, ready degradability, aerobic and anaerobic

All surfactants must be readily degraded aerobically in accordance with Test Method No. 301 A-F in the OECD Guidelines for Testing of Chemicals or other equivalent test methods.

All surfactants must be anaerobically degradable, which means at least 60% degradability under anaerobic conditions, in accordance with ISO 11734, ECETOC no. 28 or equivalent test methods. Documentation must primarily refer to the DID List dated 2007 or later. For surfactants that are not covered by the list, other documentation, such as test reports or literature references, may be used.

DID List: Detergents Ingredients Database.Link:
http://ec.europa.eu/environment/ecolabel/pdf/did_list/didlist_part_a_da.pdf

✉ Documentation must primarily refer to the DID List dated 2007 or later. For surfactants that are not covered by the list, other documentation, such as test reports or literature references, may be used (Annex 3).

O6 Enzymes

Enzymes must be in liquid form or in the form of non-dusting granulate.

Manufacturers of laundry detergents for professional use must have health and safety measures in place that prevent employees from being exposed to enzymes. In particular, there must be protection from high exposure.

✉ Declaration from the manufacturer of enzymes, or information on safety data sheets/product information sheets.

✉ Description of measures and methods for protecting personnel.

O7 Substances that must not be present in the product

The following substances must not be present in the product:

- Reactive chlorine compounds (for example, sodium hypochlorite) and/or organic chlorine compounds
- LAS (linear alkylsulphonates)
- DADMAC (diallyl dimethyl ammonium chloride)
- PFAS (perfluorinated and polyfluorinated alkylated compounds)
- Phthalates. Also excluded through requirements relating to endocrine disrupting substances.
- Boric acid, borates, and perborates
- Optical brighteners
- NTA (Nitrilotriacetate). However, complexing agents of the types MGDA and GLDA may contain impurities of NTA in the raw material in concentrations under 1.0%, as long as the concentration in the product stays under 0.1%). NTA that occurs in the product as an impurity in complexing agents are exempted from the requirement.
- Fragrances
- Triclosan
- Microorganisms
- EDTA (Ethylenediaminetetraacetate and its salts) and DTPA (diethylenetriamine pentaacetate)
- Quaternary ammonium compounds
- Siloxanes and silicone
- SVHC substances (Substances of Very High Concern)
- PBT substances (persistent, bioaccumulative and toxic substances - Annex XIII in REACH [Regulation (EC)1907/2006])
- vPvB substances (very persistent and very bioaccumulative substances - Annex XIII in REACH [Regulation (EC)1907/2006])
- Substances on the EU list of 118 substances, with documentation for potential endocrine-disrupting effects: http://ec.europa.eu/environment/endocrine/documents/final_report_2007.pdf (Annex L, page 238-)
- Nanomaterials/- particles*

** Nanomaterials/-particles are defined according to the EU Commission definition of nanomaterials dated 18 October 2011, except that the limit for particle size distribution is reduced to 1%: "A nanomaterial is a natural, incidental or manufactured material containing particles, in an unbound state or as an aggregate or as an agglomerate and where, for at least 1% of the particles in the number size distribution, one or more external dimensions is in the size range 1-100 nm." Examples are ZnO, TiO_2, SiO_2, Ag and laponite with particles of nanosize in concentrations exceeding 1%. Polymer emulsions are not regarded as nanomaterials.*

✉ Completed and signed declaration from the manufacturer (Annex 1)

✉ Completed and signed declaration from the raw material supplier (Annex 2)

O8 Preservatives

Preservatives may be added in liquid products if the preservative is not bioaccumulative. Compounds are regarded as not being bioaccumulative if BCF < 500 or log Kow < 4.0. If there is data about both BCF and log Kow, the values for BCF are to be used.

The concentration of preservative must be optimised in relation to the product's volume, and a Challenge Test or equivalent should be carried out to prove this.

✉ Documentation of BCF or log Kow.

✉ Test report of implemented Challenge Test or equivalent showing that an optimal concentration of the preservative is used in the product. See Appendix 3 for requirements concerning the test laboratory and for information about the Challenge Test.

O9 Colouring agents

Colour substances must not be bioaccumulative or must be approved for use in foodstuffs. Colour substances are not regarded as bioaccumulative if BCF < 500 or log Kow < 4.0.

✉ Documentation of BCF or log Kow, or state E-number. If there is data about both BCF and estimated log Kow, the values for BCF are to be used.

O10 Marking of plastic packaging

Plastic material must be marked in accordance with DIN 6120, Part 2, or equivalent.

✉ Documentation of the primary packaging that shows the marking is in accordance with DIN 6120 or equivalent marking devices.

O11 Plastic packaging

PVC or other halogenated plastics must not be present in packaging or in the label.

✉ Declaration that the requirement is fulfilled.

O12 Declaration of contents

The declaration of contents must be in accordance with the Regulation (EC) 648/2004 on Detergents.

✉ Safety data sheets, technical product sheet, or a copy of the label that shows the declaration of contents.

O13 Dosage instructions

The recommended dosage* for different degrees of soiling must be stated in ml or grams per 1 kg laundry. The information must be provided on the label or the product data sheet. The type of washing for which the dosage is recommended must be clearly shown, and the recommended wash temperature.

**If the dosage is stated as an interval for each degree of soiling, the worst-case dosing must be used.*

✉ Technical product data sheet or copy of label.

1.2 Total content of environmentally harmful substances

The following requirements apply to all complete laundry detergents or the total quantity of wash chemicals in multi-component systems (grams) that are used to wash 1 kg of laundry (g/kg laundry). All components that are to be Nordic Ecolabelled must be included in the calculations. The calculations must be based on the highest recommended dosing in relation to degree of soiling. Note that a complete laundry detergent and all components of the multi-component system must also fulfil all requirements in Chapter 4.1.

Dosage and limit values for the various parameters depend on the degree of soiling of the laundry. All limit values are exclusive of water. Table 3 shows a common division of laundry categories according to degree of soiling.

Table 5 - Examples of laundry categories according to degree of soiling.

Light soiling	Medium soiling	Heavy soiling
Bedlinen and towels from hotels and other overnight accommodation establishments Duvets and pillows Mats and mops Cloth hand towel rolls	Work clothes Institution/trade/service Restaurant Cloths/napkins and similar for use in restaurants, industrial kitchens, etc. Hospitals/Nursing homes Laundry from hospitals and nursing homes and similar institutions, e.g. bedding, mattress covers, operation sheets, barrier sheets, and patient clothing.	Work clothes Industry/kitchen/butchering and equivalent use Kitchen equipment Clothes and towels Industry clothing

O14 CDV (critical dilution volume)

The critical dilution volume (CDV) of the laundry detergent or multi-component systems may not exceed the limit values shown below in Table 6 or 7. Either acute values (CDVacute) or chronic values (CDVchronic) may be used.

For recommended wash at a maximum of 40-60°C, Alternative A is used (table 6).

For recommended wash at a maximum of 30-40°C, Alternative B is used (table 7).

Recommended wash temperature is documented through the requirement for Effectiveness, O20.

Requirement for **disinfection** must only be documented if the product/multi-component system is intended for this (possibly marketed for this purpose).

Table 6 - Alternative A) Washing at maximum temperature of 40-60°C

Type of laundry / customer	Degree of soiling	Disinfection required*?	Maximum temperature	CDV acute	CDV chronic
Health, food industry, hotel, mops		Yes	60°C	100 000	19 000
Work clothes (retail, service) and mats	Light	No	40°C	100 000	19 000
Work clothes Institution/trade/ service Cloths, napkins and similar for use in restaurants and industrial kitchens Laundry from hospitals and nursing homes	Medium	No	40°C	160 000	35 000
Work clothes, industry, etc (extra fat or oil)	Heavy	No	60°C	220 000	54 000

**Ability to disinfect must only be documented if the product/ multi-component system is intended for this (possibly marketed for this purpose).*

Table 7 - Alternative B) Wash at low temperature, maximum temperature 30-40°C

Type of laundry / customer	Degree of soiling	Disinfection required*?	Maximum temperature	CDV acute	CDV chronic
Health, food industry, hotel, mops		Yes	40°C	140 000	70 000
Work clothes (retail, service) and mats	Light	No	30°C	140 000	70 000
Work clothes Institution/trade/ service Cloths, napkins and similar for use in restaurants and industrial kitchens Laundry from hospitals and nursing homes	Medium	No	30°C	200 000	100 000
Work clothes, industry, etc (extra fat or oil)	Heavy	No	40°C	300 000	150 000

**Ability to disinfect must only be documented if the product/ multi-component system is intended for this (possibly marketed for this purpose).*

CDV is calculated using the following equations:

$CDV_{acute} = \sum CDV_i = \sum(dose_i \times DF_i \times 1000/TF_{acute})$

or

$CDV_{chronic} = \sum CDV_i = \sum(dose_i \times DF_i \times 1000/TF_{chronic})$

where:

$dose_i$ = *the input quantity of the individual substance in g/ kg laundry*

DF_i = *degradation factor for substance in*

TF_{acute} = *acute toxicity factor*

$TF_{chronic}$ = *chronic toxicity factor*

Because of the degradation of the substances in the wash process, separate rules apply for the following two substances:

- Hydrogen peroxide (H_2O_2) – not to be included in calculation of CDV.
- Peracetic acid (CH_3CO_3H) – to be included in the calculation as acetic acid.

Documentation must primarily refer to the DID List dated 2007 or later. For substances not included in the list, other documentation may be used, such as test reports or literature references.

DID List: Detergents Ingredients Database.

✉ Calculation of CDV for a complete system or multi-component system that shows that the requirement is fulfilled. The parameters and calculation equations that are needed for documentation of the requirement can be found in Annex 3. It must be stated whether CDVacute or CDVchronic are used.

✉ Recommended wash temperature and recommended temperature for disinfection must be documented through an effectiveness test in relation to O20.

O15 Limitation of products' content of aerobically non-biodegradable substances (aNBO)

The quantity of organic substances that are aerobically non-biodegradable (aNBO), in complete laundry detergents or multi-component systems, must not exceed the limit values given in Table 8.

Table 8 – Requirements for aNBO

Parameter	Symbol (unit)	Light	Medium	Heavy
Aerobically non-biobiodegradable compounds	aNBO (g/kg laundry)	< 0.50	< 0.85	< 1.50

✉ Calculation of aNBO. The parameters and formulas needs for documentation of the requirements, see appendix 3.

O16 Limitation of products' content of anaerobically non-biodegradable substances (anNBO)

The quantity of organic substances that are anaerobically non-biodegradable (anNBO), in complete laundry detergents or multi-component systems, must not exceed the limit values given in Table 9.

Iminodisuccinate (DID 148) may be omitted from the calculation of anNBO.

For cumene sulphonates (DID 139), the manufacturer's own data may be used (i.e. on the basis of the manufacturer's own data, this can deviate from the value anNBO=N on the DID List).

Table 9 – Requirements for anNBO

Parameter	Symbol (unit)	Light	Medium	Heavy
Anaerobic non-biodegradable compounds	anNBO (g/kg laundry)	0.50	0.85	1.50

✉ Calculation of anNBO. The parameters and formulas needs for documentation of the requirements, see appendix 3.

O17 Phosphorus

The total quantity of phosphates and other phosphorus compounds may not exceed the limit values given in Table 10, expressed as grams P/kg laundry.

Table 10 - Limit values for phosphorus

Parameter	Symbol (unit)	Light	Medium	Heavy
Quantity of phosphorus	P (g P/kg laundry)	0.50	1.00	1.50

Products that contain more phosphorus than the amount permitted by Norwegian regulations may not be sold and used in Norway or in areas where there are regulations and prohibitions concerning the use of phosphorus in detergents.

Product Regulation FOR 2004-06-01 no. 922: Regulation on restrictions in using environmentally hazardous chemicals and other products. Chapters 3-8. Detergents - phosphorus content.

✉ Calculation of the total quantity of elementary phosphorus in complete laundry detergents or in multi-component systems.

O18 Phosphonates/phosphonic acid

Total phosphonates/phosphonic acid may exceed the limit values shown in Table 11, expressed as g/kg laundry.

Table 11 - Phosphonates

	Parameter	Symbol (unit)	Light	Medium	Heavy
A	Phosphonates/phosphonic acids at 30-40 washes	g /kg laundry	0.15	0.20	0.30
B	40-60°C	g /kg laundry	0.075	0.10	0.15

✉ Calculation of total quantity of phosphonates/phosphonic acids, expressed as g/kg laundry.

O19 Environmentally hazardous substances

Substances classified as harmful to the environment may only be present in limited quantities in complete laundry detergents or multi-component systems in accordance with the classifications below:

Classification:

R50 Very toxic to aquatic organisms

R51 Toxic to aquatic organisms

R52 Harmful to aquatic organisms

R53 May cause long-term adverse effects in the aquatic environment.

Use of substances that are toxic to the aquatic environment, and that are not readily degraded in the aquatic environment, substances with the risk phrase:

R50/53 / H400 Aquatic acute 1, H410 Aquatic chronic 1

R51/53 / H411 Aquatic chronic 2 or

R52/53 / H412 Aquatic chronic 3

are limited as follows:

For light soiling:

Requirement: 100 *A R50/53 + 10* A R51/53 + A R52/53 ≤ 0.7 g/kg laundry

Requirement: 100 *A H410 + 10* A H411 + A H412≤ 0.7 g/kg laundry

For medium soiling:

Requirement: 100 *A R50/53 + 10* A R51/53 + A R52/53 ≤ 1.0 g/kg laundry

Requirement: 100 *A H410 + 10* A H411 + A H412≤ 1.0 g/kg laundry

For heavy soiling:

Requirement: 100 *A R50/53 + 10* A R51/53 + A R52/53 ≤ 1.3 g/kg laundry

Requirement: 100 *A H410 + 10* A H411 + A H412≤ 1.3 g/kg laundry

When the recommended dosage is:

A R50/53 the quantity of R50/53 substance used, in g per kg laundry

A R51/53 the quantity of R51/53 substance used, in g per kg laundry

A R52/53 the quantity of R52/53 substance used, in g per kg laundry

A H410 the quantity of H410 substance used, in g per kg laundry

A H411 the quantity of H411 substance used, in g per kg laundry

A H412 the quantity of H412 substance used, in g per kg laundry

Surfactants that are classified H412 are exempted from the requirement, assuming they are readily degradable* and anaerobically degradable**.

** According to the DID List or documentation in accordance with Test Method no. 301 A-F or no. 310 in the OECD guidelines for testing of chemicals, or other equivalent test methods.*

*** According to the DID List or documentation in accordance with ISO 11734, ECETOC no. 28 (June 1988) or equivalent test methods, if at least 60% degradability is attained under anaerobic conditions.*

✉ Presentation of surfactants that will be exempted from the requirement (quantity, classification, degradability).

✉ Compilation of the products' content of H410 / R50/53, H411 / R51/53 and H412 / R52/53 classified compounds per kg laundry.

✉ Calculations that show that the requirement is fulfilled.

✉ Safety data sheet for every constituent raw material, stating the level of environmental hazard of the substance (acute aquatic toxicity), degradability, and/or bioaccumulative property). See O2.

✉ If information about the level of environmental hazard of the substance is not available, the substance is regarded as environmental hazard H410 / R50/53.

O20 Effectiveness of industrial washing processes

The laundry detergent must fulfil the requirements for a user test according to Appendix 5. The product must be tested at the recommended wash temperature at different dosages according to requirement O1. The wash effectiveness must be shown at dosage for the same degree of soiling that was used in the calculations in Chapter 1.2, Total content of environmentally harmful substances in laundry detergents.

✉ Report of user test according to Appendix 5.

O21 Effectiveness in chemothermal disinfection

Where products are intended for chemothermal disinfection, the process must be checked by using samples of cotton contaminated with indicator bacteria. The sample fabrics must be produced according to the DGHM/VAH standard method number 17: Chemothermal washing disinfection – one bath procedure according to DIN 11905 with disinfection before the first dumping of the washing liquid (practical essay). Each fabric sample must contain the following indicator bacteria:

- Enterococcus faeçium (ATCC 6057)
- Staphylococcus aureus (ATCC 6538)

Disinfection is achieved when all indicator bacteria have been killed.

(Section 8.2.2 in the sector standard: 'Contamination protection for laundries handling institutional linen for healthcare institutions', March 2011, Norske Vaskeriers Kvalitetstilsyn).

Samples are sent for analysis by an independent party (e.g. NVK), which confirms that the disinfection has been achieved.

✉ With chemothermal disinfection, the manufacturer is to state wash temperature and dosage.

✉ A confirmation from an independent party that shows that all indicator bacteria have been killed.

O22 Custome visit

Visits to customers who use automatic dosing devices are to be a normal procedure for the manufacturer/supplier. Customer visits are to be carried out during the course of the licence validity, in accordance with the supplier's procedures and in accordance with agreements with the individual customer. Customer visits can also be made by a third party. In exceptional cases, customer visits may not be made, if distance makes implementation difficult in practice. The minimum outcome of a customer visit is calibration of dosing equipment, to ensure correct dosing.

✉ Written description of how customer visits will normally be implemented, indicating who will carry out the visit, what proportion of customers are visited, and how often they are visited.

2 Quality and regulatory requirements

To ensure that Nordic Ecolabel requirements are fulfilled, the following procedures must be implemented.

If the company's environmental management system is certified to ISO 14 001 or EMAS, and the following procedures implemented, it is sufficient for the accredited auditor to certify that the requirements are observed.

O23 Legislation and regulations

The licensee must guarantee adherence to safety regulations, working environment legislation, environmental legislation and conditions/concessions specific to the operations at all sites where the Nordic Ecolabelled product is manufactured.

No documentation is required, but Nordic Ecolabelling may revoke the licence if the requirement is not fulfilled.

O24 Responsibility for the Nordic Ecolabel

The company shall appoint a person responsible for ensuring the fulfilment of Nordic Ecolabel requirements, and a contact person for communications with Nordic Ecolabelling.

✉ A chart of the company's organizational structure detailing who is responsible for the above.

O25 Documentation

The licensee must be able to present a copy of the application, and factual and calculation data supporting the documents submitted on application (including test reports, documents from suppliers and suchlike).

🔑 Checked on site.

O26 Quality of the laundry detergent

The licence holder must guarantee that the quality in the production of the Nordic Ecolabelled laundry detergent for professional use is maintained throughout the period of validity of the licence.

✉ Procedures for collating and, where necessary, dealing with claims and complaints regarding the quality of the Nordic Ecolabelled laundry detergents for professional use.

O27 Planned changes

Written notice must be given to Nordic Ecolabelling of planned changes in products and markets that have a bearing on Nordic Ecolabel requirements.

✉ Procedures detailing how planned changes in products and markets are handled.

O28 Unplanned nonconformities

Unplanned nonconformities that have a bearing on Nordic Ecolabel requirements must be reported to Nordic Ecolabelling in writing and recorded in a journal.

✉ Procedures detailing how unplanned nonconformities are handled.

O29 Traceability

The licensee must have a traceability system for the production of the Nordic Ecolabelled product.

✉ Description of/procedures for the fulfilment of the requirement.

O30 Take-back system

Relevant national regulations, legislation and/or agreements within the sector regarding recycling systems for products and packaging must be complied with in all the Nordic countries in which the Nordic Ecolabelled laundry detergents for professional use are marketed.

✉ Declaration from the applicant regarding adherence to existing recycling/take-back agreements.

O31 Marketing

Marketing of the Nordic Ecolabelled XX must comply with "Regulations for the Nordic Ecolabelling of products" 22 June 2011 or later versions.

✉ Appendix 6 duly completed.

Marketing

The Nordic Ecolabel is a very well-known and well-reputed trademark in the Nordic region. Nordic Ecolabelled products and services may be marketed using the Nordic Ecolabel so long as the associated licence is valid.

The label must be positioned so that there is no doubt as to what the label refers and so that it is clear that the laundry detergent for professional use is ecolabelled.

More information on marketing can be found in "Regulations for the Nordic Ecolabelling of products" 22 June 2011 or later versions.

Design of the Nordic Ecolabel

Design of the Nordic Ecolabel:



For sub-components in a multi-component system "Part of a multi-component system" must be the subtitle to the Nordic Ecolabel.

When ecolabelling complete detergents only, the subtitle "Laundry detergents for professional use" must be used.

Each licence has a unique six-figured licence number that must be displayed along with the label.

More information on the design of the label can be found in "Regulations for the Nordic Ecolabelling of products" 22 June 2011 or later versions.

Follow-up inspections

Nordic Ecolabelling may decide to check whether the product fulfils Nordic Ecolabel 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 product 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.

How long is a licence valid?

Nordic Ecolabelling adopted the criteria for XX on DAY MONTH YEAR. The criteria are valid until DAY MONTH YEAR (will be set after public consultation).

The 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.

New criteria

- Assess relevance and possibility of setting requirements on raw material production and origin.
- Follow up Nordic Ecolabelling's work on broad projects for raw materials. Even more

Terms and definitions

Term	Explanation or definition
aNBO	Aerobically non biodegradable substances
anNBO	Anaerobically non biodegradable substances
CDV	Critical Dilution Volume (l/kg wash)
CMR	Substances classified as either carconigenic, mutagetic or toxic to reproduction
DF	Degradation Factor (used in CDV calculation)
dH	German degrees of hardness. 1ºdH equivalent to 7,1 mg/l calcium and 4,3 mg/l magnesium.
DID-list	Detergents Ingredients Database list
PBT / vPvB	Persistant, Bioaccumulative, Toxic/very Persistant and very Bioaccumulative
TF	Toxicity Factor (used in CDV calculation)

Appendix 1 Declaration by the laundry detergent manufacturer/ supplier on the contents of the product

This declaration is based on knowledge we have available about the product, based on tests and/or declarations from the raw material producer, at the time of application.

Name of product:_____

Type of product:_____

Unless stated otherwise, constituent substances are regarded as all substances in the product, including additives (e.g. preservatives and stabilisers) in the raw materials, but not impurities from primary production. Impurities are regarded as residue from primary production present in the finished product in concentrations of less than 100 pp, (0.0100% by weight, 100 mg/kg). Substances that have been added to a raw material or a product, deliberately and with a purpose, are not regarded as impurities, regardless of quantity. Impurities at concentrations exceeding 1.0% in the raw material are regarded as constituent substances. Products known to be liberated by a constituent substance are also regarded as constituent substances.

We (manufacturer/supplier of the product) declare that the following substances are not present in the product (place cross for "Not present" or "Present"):

	Not present	Present
Reactive chlorine compounds (e.g. sodium hypochlorite) and/or organic chlorine compounds		
Alkylphenol ethoxylates (APEO) and/or alkylphenol derivatives (APD)		
LAS (linear alkyl benzene sulphonates)		
DADMAC (diallodimethyl ammonium chloride)		
PFAS (per and polyfluorinated alkylated compounds)		
Phthalates (also excluded through requirement relating to endocrine-disrupting substances)		
Boric acid, borates and perborates		
Optical brightener		
NTA (Nitrilotriacetate). However, MGDA and GLDA complexing agents may contain impurities of NTA in the raw material, at concentrations below 1.0%, providing the concentration in the product is below 0.1%.NTA present in the product as an impurity in complexing agents is exempted from the requirement. However, the concentration of NTA in the product must not exceed 0.010%.		
Fragrance		
Triclosan		
EDTA (ethylene diaminetetraacetic acid and its salts) and DTPA (diethylenetriamine pentaacetate)		
Quaternary ammonium compounds		
Siloxanes and silicone Limited by requirement regarding CDV and degradability.		
SVHC substances (Substances of Very High Concern)		
PBT (persistent, bioaccumulative and toxic substances – Annex XIII REACH [Regulation 1907/2006/EU])		

vPvB (very persistent and very bioaccumulative substances – Annex XIII REACH [Directive 1907/2006/EC])		
None of the constituent substances may be on the EU priority list of substances that must be examined further for endocrine disruption effects Class 1 or 2. The list is available here: http://ec.europa.eu/environment/endocrine/documents/final_report_2007.pdf (bilag L, side 238-)		
Nanomaterials/- particles*		

** Nanomaterials/-particles are defined according to the EU Commission definition of nanomaterials, dated 18 October 2011, except that the limit for particle size distribution is reduced to 1%: "A nanomaterial is a natural, incidental or manufactured material containing particles, in an unbound state or as an aggregate or agglomerate and where, for at least 1% of the particles in the number size distribution, one or more external dimensions is in the size range 1-100 nm." Examples are ZnO, TiO2, SiO2, Ag and laponite with particles of nanosize in concentrations exceeding 1%. Polymer emulsions are not regarded as nanomaterials.*

Signature of manufacturer/supplier

Place and date	Company
Signature of contact person	
Name of contact person (block capitals)	Telephone

Appendix 2 Declaration by the manufacturer /supplier on the contents of the raw material

This declaration is based on knowledge we have available about the product, based on tests and/or declarations from the raw material producer, at the time of application.

Name of raw material:_____

Manufacturer/supplier:_____

Unless stated otherwise, constituent substances are regarded as all substances in the product, including additives (e.g. preservatives and stabilisers) in the raw materials, but not impurities from primary production. Impurities are regarded as residue from primary production present in the finished product in concentrations of less than 100 pp, (0.0100% by weight, 100 mg/kg). Substances that have been added to a raw material or a product, deliberately and with a purpose, are not regarded as impurities, regardless of quantity. Impurities at concentrations exceeding 1.0% in the raw material are regarded as constituent substances. Products known to be liberated by a constituent substance are also regarded as constituent substances.

We (manufacturer/supplier of the raw material) declare that the following substances are not present in the product (place cross for "Not present" or "Present"):

	Not present	Present
Reactive chlorine compounds (e.g. sodium hypochlorite) and/or organic chlorine compounds		
Alkylphenol ethoxylates (APEO) and/or alkylphenol derivatives (APD)		
LAS (linear alkyl benzene sulphonates)		
DADMAC (diallodimethyl ammonium chloride)		
PFAS (per and polyfluorinated alkylated compounds)		
Phthalates (also excluded through requirement relating to endocrine-disrupting substances)		
Boric acid, borates and perborates		
Optical brightener		
NTA (Nitrilotriacetate). However, MGDA and GLDA complexing agents may contain impurities of NTA in the raw material, at concentrations below 1.0%, providing the concentration in the product is below 0.1%.NTA present in the product as an impurity in complexing agents is exempted from the requirement. However, the concentration of NTA in the product must not exceed 0.010%.		
Fragrance		
Triclosan		
EDTA (ethylene diaminetetraacetic acid and its salts) and DTPA (diethylenetriamine pentaacetate)		
Quaternary ammonium compounds		
Siloxanes and silicone Limited by requirement regarding CDV and degradability.		
SVHC substances (Substances of Very High Concern)		
PBT (persistent, bioaccumulative and toxic substances – Annex XIII REACH [Regulation 1907/2006/EU])		
vPvB (very persistent and very bioaccumulative substances – Annex XIII REACH [Directive 1907/2006/EC])		

None of the constituent substances may be on the EU priority list of substances that must be examined further for endocrine disruption effects Class 1 or 2. The list is available here: http://ec.europa.eu/environment/endocrine/documents/final_report_2007.pdf (bilag L, side 238-)		
Nanomaterials/- particles*		

** Nanomaterials/-particles are defined according to the EU Commission definition of nanomaterials, dated 18 October 2011, except that the limit for particle size distribution is reduced to 1%: "A nanomaterial is a natural, incidental or manufactured material containing particles, in an unbound state or as an aggregate or agglomerate and where, for at least 1% of the particles in the number size distribution, one or more external dimensions is in the size range 1-100 nm." Examples are ZnO, TiO2, SiO2, Ag and laponite with particles of nanosize in concentrations exceeding 1%. Polymer emulsions are not regarded as nanomaterials.*

Signature of manufacturer/supplier

Place and date	Company
Signature of contact person	
Name of contact person (block capitals)	Telephone

Appendix 3 Parameters and formulae

In the calculation of CDV (O14), a number of parameters and formulae are needed to document that the requirement is fulfilled.

1. Critical dilution volume (CDV)

The critical dilution volume (CDV) is calculated in accordance with the following formula:

(a) CDV= 1000 * Σdose (i) * DF(i)/TF(i)

Dosage (i) = Dosage of component i, expressed in g/kg laundry

DF(i) = Degradation factor for component i.

TF(i) = Toxicity factor for component i.

1.1 Method for determining parameter values for components not on the DID List

The specified parameter values must be used for all components on the 'Detergent Ingredients Database' (version 30 June 2004, Part A) chemicals list, i.e. the DID List. However, an exception is made for colouring agents, where additional test results are approved (see the footnote in Part A).

The following method must be used for components not on the DID List:

Toxicity in aquatic environment

In Nordic Ecolabelling, CDV is calculated on the basis of the acute or chronic toxicity factor and the safety factor.

Acute toxicity factor (TF_{acute})

- Calculate the median value for each trophic level (fish, crustaceans or algae) on the basis of validated test results concerning acute toxicity If there are a number of test results for the same species at a certain trophic level, the median value for the species must be calculated first. These median values are then used to calculate the median level for the trophic level.
- The acute toxicity factor (TF_{acute}) is the lowest calculated acute median value for the trophic levels divided by the acute safety factor (SF_{acute}).
- TF_{acute} must be used to calculate the critical dilution volume.

Chronic toxicitity factor ($TF_{chroniic}$)

Calculate the median value for each trophic level (fish, crustaceans or algae) on the basis of validated test results concerning chronic toxicity. If there are a number of test results for the same species at a certain trophic level, the median value for the species must be calculated first. These median values are then used to calculate the median level for the trophic level.

The chronic toxicity factor ($TF_{chronic}$) is the lowest calculated chronic median value for the trophic levels divided by acute safety factor SF_{acute}.

$TF_{chronic}$ is used to calculate the critical dilution volume.

Safety factor

The safety factor (SF_{acute}) depends on how many trophic levels are tested and whether or not there are test results for chronic toxicity. The acute safety factor (SF_{acute}) and the acute toxicity factor (TF_{acute}) are determined as follows:

Data	**Safety factor (SFacute)**	**Toxicity factor (TFacute)**
A short-term LC50 (or LE50)	10 000	Toxicity / 10 000
Two short-term LC50 (or LE50) from species representing two trophic levels (fish and/or crustaceans and/or algae)	5 000	Toxicity / 5 000
At least one short-term LC50 (or LE50) from each of the trophic levels	1 000	Toxicity / 1 000
One long-term NOEC (fish or crustaceans)	100	Toxicity / 100
Two long-term NOEC from species representing two trophic levels (fish and/or crustaceans and/or algae)	50	Toxicity / 50
Long-term NOEC from at least three species (fish, crustaceans and algae) representing three trophic levels	10	10

Degradation factor

The degradation factor is defined as follows:

Degradation factor (DF)

	DF
Readily biodegradable (*)	0.05
Readily biodegradable (**)	0.15
Potentially degradable	0.5
Persistent	1.0

(*) All surface-active substances or other components that consist of a series of homologues and that meet the requirement for ready degradation in the test must be included in this class regardless of whether they meet the criterion of a 10-day window.

(**) The criterion of a 10-day window is not met.

In the case of inorganic components, DF is determined on the basis of the observed degradation rate. If the component is degraded within 5 days: DF = 0.05; within 15 days: DF = 0.15; or within 50 days: DF = 0.5.

- For every substance in the product, it must be clearly apparent which substance from the list has been used.
- Presentation of the calculations of the CDV formula for every ingredient and CDV for complete laundry detergent or multi-component system.
- For substances not on the DID List, it must be clearly apparent which values are used in the CDV formula.

2. Aerobic non-biodegradable substances, aNBO

Aerobic non-biodegradable substances, aNBO, are organic substances that do not meet the criteria for ready degradability. The aNBO value is expressed as the total quantity of non-readily degradable substances per kg laundry.

In the chemicals list (the DID List), the substances are divided into the following classes:

Category	**Code**
Readily biodegradable	R
Potentially biodegradable, but not readily biodegradable	I
Persistent	P
Not tested for biodegradability under aerobic conditions.	O

Organic substances that are classifed as I and P or O are regarded as aNBO, unless the result of degradation tests for untested substances is presented.

The limit values for whether a substance is to be classified as readily or potentially degradable are shown below:

Classified	***Test method**	**BOD or CO_2**	**COD**
Readily degradable	301 A-F	≥ 60%	≥ 70%
Potentially degradable	302 A-C		≥ 70%

BOD (Biological oxygen demand)

COD (Chemical oxygen demand)

3. Anaerobic non-biodegradable substances, anNBO

Anaerobic non-biodegradable substances, anNBO, are organic compounds that are not degraded under oxygen-deficient conditions. The anNBO value is expressed as the total quantity of anaerobic non-degradable organics in g/kg of laundry.

In the DID List, substances are divided into the following classes:

Category	**Code**
Non-biodegradable under anaerobic conditions, i.e. tested and found not to be degradable	N
Biodegradable under anaerobic conditions, i.e. tested and found to be degradable, or degradability established via analogy comparisons.	Y
Not tested for biodegradability under anaerobic conditions	O

All organic substances with a classification of N and O on the DID list are regarded as anNBO unless otherwise shown by the results of anaerobic degradation tests for untested substances.

If the substance is not on the DID List, anaerobic degradation of the substance must be documented. All substances that are not anaerobically degradable in accordance with ISO 11734, ECETOC no. 28 June 1988 or some other scientifically accepted method are classed as anNBO. The requirement is a minimum of 60% degradability under anaerobic conditions.

In the absence of documentation in accordance with the above requirements, a substance other than a surfactant may be exempted from the requirement for anaerobic degradability if one of the following three alternatives is fulfilled:

1. Readily degradable and has low adsorption (A < 25%) or

2. Readily degradable and has high desorption (D > 75%) or

3. Readily degradable and non-bioaccumulating.

Testing for adsorption/desorption may be conducted in accordance with OECD Guidelines no. 106.

Appendix 4 Analysis and test laboratories

Requirements concerning the analysis laboratory

The analysis laboratory must meet the general requirements in accordance with standard EN ISO 17025 or be an officially GLP-approved analysis laboratory.

The applicant's analysis or measurement laboratory may be approved to conduct analyses and measurements if:

- the authorities monitor the sampling and analysis process, or
- the manufacturer has a quality system incorporating sampling and analyses, and which is certified in accordance with ISO 9001 or ISO 9002, or
- the manufacturer can show that the manufacturer's own tests are in agreement with those of an impartial test institution, as certified through a parallel test, and that the manufacturer takes samples in accordance with a prescribed sampling plan.

The manufacturer's test laboratory can be approved to conduct testing to document effectiveness if the following additional requirements are met:

- The ecolabelling organisation must be able to monitor the execution of a test.
- The ecolabelling organisation must have access to all data about the product
- The samples must be de-identified for the test laboratory
- Execution of the effectiveness test must be described in the quality control system.

Appendix 5 Requirements concerning the user test (O20)

The laundry detergent must fulfil the requirements in the user test. The product must be tested at the recommended wash temperature at different dosages stated in requirement O1, and according to the wash temperature in relation to recommended level A or B.

Alternative	Recommended maximum wash temperature	Effectiveness
A	40-60°C*	O20 in relation to temperature.
B	30-40°C**	O20 in relation to temperature.

- Responses must be obtained from at least 5 test centres representing a random selection of customers
- The procedure and dosage must conform to the manufacturer's recommendations
- The test period must continue for at least 3 months.
- Every test centre must assess the dosability, rinsability and solubility of the product or multi-component system.
- Every test centre must assess the effectiveness of the product or multi-component system by commenting on the following or equivalent issues:
- Ability to wash clean lightly, medium or heavily soiled laundry.
- Assessment of primary laundering effects such as dirt removal, stain removal and bleaching.
- Assessment of secondary laundering effects such as greying of white washing, colour-fastness and colouring.
- Assessment of the effect of the rinsing agent on drying, ironing or mangling of laundry.
- How satisfied the test subject is with agreements on customer visits
- The responses must be rated on a scale comprising at least 3 levels; for example, "insufficiently effective", "sufficiently effective" or "very effective". Or concerning agreements on visits: "not satisfied", "satisfied" or "very satisfied".
- At least 5 test centres must submit responses. At least 80% must rate the product as sufficiently effective or very effective on all points and be satisfied or very satisfied with agreements on customer visits.
- All raw data from the test must be provided.
- The test procedure must be described in detail.

Wash effectiveness – form for user test of laundry detergents for professional use (O20)

Name of test product/component in a multi-component system
Name of user test site:

Dosage of test product/component is to be stated for the laundry categories in accordance with Table 5 in Chapter 1.2:

Light soiling	**Medium soiling**	**Heavy soiling**
Bedlinen and towels from hotels and other overnight accommodation establishments Duvets and pillows Mats and mops Cloth hand towel rolls	Work clothes Institutions/retail/service Restaurant Cloths, napkins and similar for use in restaurants, industrial kitchens, etc. Hospitals/nursing homes Laundry from hospitals, nursing homes, and similar institutions, including for example, bedding, mattress covers, operation laundry, barrier sheets and patient clothing.	Work clothes Industry/kitchens/butchering and equivalent use. Kitchen laundry (cloths and towels) Industrial clothes

Dosage of test product/components

Laundry category (see Table 5)	**Degree of soiling**	**Dosage, product* (gram/kg laundry)**		
	Light			
	Medium			
	Heavy			

** For multi-component systems, the equivalent dosage is stated for each component.*

Test period (3 months):

Start date:	
End date:	
How many times has the test product been used in the test period stated?	

Assessment of the product/ multi-component system

At the end of the test period, the product/multi-component system must be assessed, using the form below.

	Very effective / Very satisfactory	**Sufficiently effective / Sufficiently satisfactory**	**Not effective / Not sufficiently satisfactory**
Dosability			
Ability to be rinsed out			
Solubility			
Ability to wash clean lightly-soiled laundry with light soiling			
Ability to wash clean medium-soiled laundry with medium soiling			
Ability to wash clean heavily-soiled laundry			
Ability to remove stains			
Ability to bleach (if relevant)			
Greying of white laundry (if relevant)			
Colour-fastness			
Colouring			
Effect of fabric conditioner on drying, ironing and mangling			
Customer visits by supplier			

Comments: _____

_____

Information about test site:

The user test was performed at/Person responsible for execution of the user test

Address:	
Telephone:	

Brief description of the test site where the washing test was carried out (type of machine, wash temperature, other information of relevance for the wash result)

_____

Signature of person responsible for execution of the test:
Place and date:

If there are any questions about the test, please contact the manufacturer of the test product.

Appendix 6 Marketing of Nordic Ecolabelled Laundry detergents for professional use

We hereby certify that we are well acquainted with the regulations governing the use of the Nordic Ecolabel, as detailed in "Regulations for the Nordic Ecolabelling of products" of 22 June 2011 or later version. We agree to follow these regulations when marketing the Nordic Ecolabelled Laundry detergents for professional use.

Further, we confirm that we are familiar with the criteria document regarding the Nordic Ecolabelling of Laundry detergents for professional use.

We undertake to advise those individuals within the company involved in marketing the Nordic Ecolabelled Laundry detergents for professional use of the criteria for the Nordic Ecolabelling of Laundry detergents for professional use and "Regulations for the Nordic Ecolabelling of products" of 22 June 2011 or later version.

_____ _____

Location and date Company

_____

Signature, contact person

_____ _____

Name in block capitals Phone

_____

Signature of marketing director

_____ _____

Name in block capitals Phone

Appendix 7 Translation key for CLP (classification, labelling and packaging)

Requirements for classification in O3 and O4 apply according to Directive 67/548/EEC and adapations, to REACH according to Directive 2006/121/EC and 1999/45/EC as amended and adapted. In transition to CLP, the requirements for classification of product and constituent substances in products may be converted according to the table below.

Please note that it is the manufacturer of the laundry detergent and the manufacturer of constituent substances that are responsible for the classification.

Translation of requirements in O3 and O4 to CLP

Classification	Hazard classes and risk phrases	CLP
Environmental hazard	N with R50, R50/53, R51/53. R52 R53 R52/53	Ecotoxicity Acute Category 1, H400 Ecotoxicity Chronic Category 1, H410 Ecotoxicity Chronic Category 2, H411 Ecotoxicity Chronic Category 4, H413 Ecotoxicity Chronic Category 3, H412
Highly toxic	T+ with R26, R27, R28, R39	Acute Toxicity Category 1 H330 Acute Toxicity Category 2, H330 Acute Toxicity Category 1, H310 Acute Toxicity Category 2, H310 Acute Toxicity Category 1, H300 Acute Toxicity Category 2, H300 Specific Target Organ Toxicity after Single Exposure Category 1, H370
Toxic	T with R 23, R24, R25, R39, R48	Acute Toxicity Category 3, H331 Acute Toxicity Category 3, H311 Acute Toxicity Category 3, H301 Specific Target Organ Toxicity after Single Exposure Category 1, H371 Specific Target Organ Toxicity after Repeated Exposure Category 1, H372
Harmful to health	Xn med R20, R21, R48, R65 R68	Acute Toxicity Category 4, H332 Acute Toxicity Category 4, H312 Specific Target Organ Toxicity after Single Exposure Category 2, H373 Germ Cell Mutagenicity Category 1B, H340
Allergy	Xn med R42 Xi med R43	Respiratory Sensitisation Category 1, H334 Skin Sensitisation Category 1, H317
Carcinogenic	T with R45 (Carc 1 or 2) R49 (Carc 1 or 2) Xn with R40	Carcinogenicity Category 1A, H350 Carcinogenicity Category 1B, H350 Carcinogenicity Category 2, H351
Mutagen	T with R46 (Mut 1 or Mut2) Xn with R68 (Mut 3)	Germ Cell Mutagenicity Category 1A, H340 Germ Cell Mutagenicity Category 1B, H340 Germ Cell Mutagenicity Category 2, H341
Toxic to reproduction	T with R60 (Rep 1 or 2), R61 R64 Xn with R62, R63	Reproductive Toxicity Category 1A, H360 Reproductive Toxicity Category 1B, H360 Reproductive Toxicity Category 2, H361