

**Nordic Ecolabelling of
Dishwasher detergents for professional use**

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Nordic Ecolabelling

In November 1989, the Nordic Council of Ministers adopted a measure to implement an official voluntary ecolabelling scheme, the Swan. The organizations/companies listed below administer the Nordic Ecolabelling scheme on assignment from their national governments.

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Quotations may be made provided that Nordic Ecolabelling is stated as the source.

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

Nordic Ecolabelling of Dishwasher detergents for professional use

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What is a Nordic Ecolabelled dishwasher detergent?

A Nordic Ecolabelled dishwasher detergent for professional use or multi-component system has top environmental performance in its product group. The dishwasher detergent fulfils stringent requirements on the health and environmental characteristics of its ingredients as well as performance and efficiency.

Nordic Ecolabelled dishwasher detergents for professional use:

- Contain limited amounts of environmentally hazardous and harmful substances.
- Contain biodegradable substances.
- Perform equally or better than equivalent products designed for the same function.
- Are precisely dosed with customer calls to check dosage.

Dirty dishwater is treated and released into nature. It is therefore vital that all constituent substances are readily biodegradable. The dishwasher detergent must not contain bioaccumulating or toxic substances that can upset the ecosystem.

Many fragrances are allergenic and ecotoxic. Some preservatives bioaccumulate while others are more environmentally suitable. Accordingly, Nordic Ecolabelling prohibits the use of fragrances and limits the use of preservatives.

An important Nordic Ecolabel requirement is that dishwasher detergents for professional use shall perform on a par or better than established products.

In comparative testing, the results at the recommended dosage must be satisfactory. This is also checked through regular inspection visits.

Why choose the Nordic Ecolabel?

- The producer may use the Swan trademark for marketing purposes. The Nordic Ecolabel, the Swan, is a very well-known and well-reputed trademark in the Nordic region.
- The Nordic Ecolabel is a cost-effective and simple way of communicating environmental work and commitment to customers and suppliers.
- Reducing environmental impact often creates scope for lowering costs, such as by cutting the consumption of energy and reducing amounts of packaging and waste.
- Environmental issues are complex. It can take a long time and extensive resources to gain an understanding of a specific area. The Nordic Ecolabel can be seen as an aid in this work.

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

What can carry the Nordic Ecolabel?

These criteria apply to single and multi-component dishwasher detergents, drying agents and presoaks for professional use within institutions and catering centres. Products that are designed for a wash cycle of less than ten minutes are considered professional products. Dishwasher detergents for special machines used in food production, dairies, etc., are not included. The criteria also apply to customer visits.

How to apply

Each requirement is marked with the letter R (requirement) and a number. All requirements must be fulfilled for the award of 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
- ☺ Requirement checked on site

Application

The application shall be sent to Nordic Ecolabelling in the country in which the dishwasher detergent, drying agent or presoak is sold/the applicant carries on activities. See page 2 for addresses. The documents required for application are an application form and documentation demonstrating fulfilment of the requirements (specified under each requirement).

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

On-site inspection

During the application process, Nordic Ecolabelling performs an on-site inspection to ensure adherence to the requirements. For this 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 product.

Enquiries

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

What are the requirements for the Nordic Ecolabel?

To be awarded a Nordic Ecolabel licence, all requirements must be fulfilled. Regarding multi-component systems, calculations shall be based on the entire system. The requirements in Section 1.1 mean that each individual component must also fulfil the requirement. A multi-component system must at a minimum comprise the components required to pass the performance tests.

1 Environmental requirements

The environmental criteria are divided into two sections: Section 1.1 contains general requirements that apply to all products and all components in a multi-component system.

Section 1.2 specifies requirements that apply to a single component detergent or an entire multi-component system. The requirements in Section 1 apply to all constituent substances unless specified otherwise.

The term constituent substance refers to all substances in the ingredients including additives (such as preservatives and stabilisers) but does not include impurities from primary production. Impurities are defined as residual products from primary production that can be found in the dishwasher detergent, drying agent or presoak in concentrations below 0.01%. Substances that are added intentionally to an ingredient are not considered impurities irrespective of their concentration.

The requirements in Section 1.1 and 1.2 are based on the highest recommended dosage in grams of product per litre of dishwashing water.

1. 1 General requirements (applies to all products and all components of multi-component systems)

K1 Description of the product

The applicant must provide a detailed description of the dishwasher detergent, drying agent or presoak for which the Nordic Ecolabel is sought. The description shall contain:

- Name and address of the manufacturer
- Annual turnover of the product.
- Description of the product and its use.
- Descriptions of the products forming part of a multi-component system.
- Area of use, with reference to “What can carry the Nordic Ecolabel?” concerning dishwasher detergent for professional use.

☒ Specification complying with the above.

R2 Recipe

The exact recipe of the dishwasher detergent, drying agent or presoak shall be submitted as well as the highest recommended dosage. If the application is for a multi-component system, details must be provided of all the components. The recipe shall clearly state the chemical substances with name and possible CAS number, as well as their function and their proportion as a percentage. In cases where an ingredient comprises several substances, what the particular ingredient contains shall be declared. All of the following parameters must be evident from the submitted information:

- Producer
- Trade name
- Function of each ingredient
- Chemical name
- CAS no.
- DID no.
- proportion (dry and wet sample)
- Classification according to Council Directive 67/548/EEC and Council Directive 1999/45/EC with amendments.

The DID number is the number assigned to the ingredient on the DID list, which is used for the evaluation of chemical requirements. The DID list is available from Nordic Ecolabelling. See page 2 for addresses.

DID list: "Detergent Ingredient Database" list. See Appendix 4 for further information.

- ☒ Exact recipe as specified above.
- ☒ Material safety data sheet/product data sheet complying with applicable legislation in the country of application such as Annex II of REACH (Council Regulation 1907/2006/EEC) for each ingredient.

K3 Classification of the product

Products must not be classified according to current regulations in the Nordic countries or the European Dangerous Substances Directive 67/548/EEC with amendments and/or CLP Regulation 1272/2008 with amendments, as specified in Table 1. During a transition period, i.e. until 1 June 2015, classification according to European Dangerous Substances Directive 67/548/EEC or the CLP regulation can be used. Following the transition period, classification must comply with Annex VII of the CLP regulation (see Table 1).

Table 1. Product classification

Classification	Hazard symbol and risk phrase / Hazard category and statement	
	Dangerous Substances Directive 67/548/EEC	CLP Regulation 1272/2008
Dangerous for the environment	N with R50, R50/53 or R51/53. R52, R53 or R52/53 without N	Hazardous to the aquatic environment Category Acute 1 H400; Category Chronic 1 H410; Category Chronic 2 H411; Category Chronic 3 H412; Category Chronic 4 H413
Very toxic	Tx (T+ in Norway) with R 26, R 27, R 28 and/or R 39.	Acute toxicity, Category 1 and 2
Toxic	T with R 23, R 24, R 25, R 39 and/or R 48.	Acute toxicity, Category 3
Harmful	Xn with R 20, R 21, R 22, R 48, R 65 and/or R 68. (Exceptions: Classifications R20, R21 and/or	Acute toxicity, Category 4 (Exceptions: Classifications R20, R21 and/or R22 are permitted if the

	R22 are permitted if the packaging is so designed that the user does not come into contact with the product)	packaging is so designed that the user does not come into contact with the product)
Corrosive	C with R34 and R35 – Applicable to drying agent only	Skin corrosion/irritation, Category 1A, 1B and 1C H314 - Applicable to drying agent only
Sensitizing	Xn with R42 or Xi with R43	Respiratory sensitisation, Category 1 with H334 or Skin sensitisation Category 1 with H317
Carcinogenic	T with R45 and/or R49 Carc 1 or Carc 2 or Xn with R 40 Carc 3.	Carc 1A/1B/2 with H350, H350i and/or H351
Mutagenic	T with R46, Mut 1 or Mut 2 or Xn with R68 Mut 3.	Mut 1B/2 with H340 and/or H341
Reproductive toxic	T with R60, R61, R64 and/or R33, Rep 1 or Rep 2 or Xn with R 62, R 63, R 64 and/or R 33. Repr 3.	Repr 1A/1B/2 with H360, H361, H362

Further information on risk phrases can be found in Appendix 6.

- ☒ Material safety data sheet for the product complying with applicable legislation in the country of application such as Annex II of REACH (Council Regulation 1907/2006/EEC).

R4 Classification of constituent substances

Substances in the product or ingredients must not be classified in accordance with current regulations in the Nordic countries. Nor must they be classified in accordance with the European Dangerous Substances Directive

67/548/EEC with amendments and/or the CLP Regulation 1272/2008 as specified in Table 2.

Table 2 Classification of constituent substances

Classification	Hazard symbol and risk phrase / Hazard category and statement	
	Dangerous Substances Directive 67/548/EEC	CLP Regulation 1272/2008
Sensitizing*	Xn with R42 or Xi with R43	Resp. sens. 1 with H334 or Skin sens 1 with H317
Carcinogenic	T with R45 and/or R49, Carc 1 or Carc 2 or Xn with R40, Carc 3.	Carc 1A/1B/2 with H350, H350i and/or H351
Mutagenic	T with R46, Mut 1 or Mut 2 or Xn with R68, Mut 3.	Mut 1B/2 with H340 and/or H341
Reproductive toxic	T with R60, R61, R64 and/or R33, Repr 1 or Rep 2 or Xn with R62, R63, R64 and/or R33, Repr 3.	Repr 1A/1B/2 with H360, H361 and/or H362

* See the separate requirements R7 and R9 on enzymes and preservatives.

Material safety data sheet complying with applicable legislation in the country of application such as Annex II of REACH (Council Regulation 1907/2006/EEC) for each ingredient.

Appendix 2 and 3 duly completed and signed, or equivalent signed declarations.

R5 Environmentally hazardous substances

Substances that are classified as environmentally hazardous are permitted in limited quantities in single and multi-component dishwasher detergent systems.

The inclusion of substances that are toxic to the aquatic environment and that are not readily biodegradable in the aquatic environment is limited as specified below (substances assigned the risk phrases R50/53, R51/53 and R52/53, alternatively Hazardous to the aquatic environment Category Chronic 1 H410, Category Chronic 2 H411, Category Chronic 3 H412).

$$100 * A_{R50/53} + 10 * A_{R51/53} + A_{R52/53} \leq 0.2 \text{g/kg product}$$

or:

$$100 * A_{H410} + 10 * A_{H411} + A_{H412} \leq 0.2 \text{g/kg product}$$

At the highest recommended dose:

$A_{R50/53 / H410}$ is the quantity of substances assigned R50/53 or H410 classification in grams per kilogram of product.

$A_{R51/53 / H411}$ is the quantity of substances assigned R51/53 or H411 classification in grams per kilogram of product.

$A_{R52/53 / H412}$ is the quantity of substances assigned R52/53 or H412 classification in grams per kilogram of product.

If no details of a substance's environmental properties are available it is considered environmentally hazardous with classification R50/53 / H410.

- ☒ Summary of the content of substances and preparations classified as R50/53, R51/53 or R52/53 / H410, H411 or H412 per kilogram of product.
- ☒ Calculations demonstrating the fulfilment of the requirement.
- ☒ Material safety data sheet for each ingredient in accordance with current regulations in the country of application, such as Annex II of REACH (Directive 1907/2006/EC) with an account of the substance's environmental hazard (acute aquatic toxicity, degradability and/or bioaccumulating properties).

R6 Surfactants

All surfactants (irrespective of function) must display ready biodegradability under aerobic conditions in accordance with OECD Guidelines for the Testing of Chemicals, test no. 301 A-F, or other equivalent scientifically proven test method. This is also a legal requirement for this category of products.

All surfactants must display biodegradability under anaerobic conditions according to ISO 11734, ECETOC no. 28 or equivalent test method. Documentation shall primarily refer to the DID list of 2007 or later. For surfactants not covered by the DID list, other documentation such as test reports and literature references may be submitted.

The DID list (Detergents Ingredients Database) is available at:

http://ec.europa.eu/environment/ecolabel/ecolabelled_products/categories/pdf/did_list/didlist_part_a_en.pdf

- Documentation shall primarily refer to the DID list dated January 2007 or later. For surfactants not found on the DID list, other documentation such as test reports and literature references may be submitted (see Appendix 4).

R7 Enzymes

Enzymes must be in liquid form or dust-free granulate. Enzymes must be free from micro-organism remnants from manufacture. Products in spray bottles or designed for use in spray bottles or equivalent must not contain enzymes.

The producer of the dishwasher detergent, drying agent or presoak must take precautionary measures to ensure that users are not exposed to enzymes. Special protective equipment shall protect against high levels of exposure.

- Specification from the enzyme producer or details on the MSDS/product data sheet.
- Description of measures and methods to protect users.

R8 Prohibited substances

The following constituent substances are prohibited from use in the product and ingredients:

- Fragrances
- Reactive chlorine compounds
- Borates and perborates
- APEO (Alkyl phenol ethoxylates)
- APD (Alkylphenol derivatives)
- NTA (MGDA and GLDA complexing agents may however contain NTA contaminants in concentrations below 1.0%, so long as the concentration in the final product is lower than 0.1%)
- EDTA and associated salts
- Substances with potential for endocrine disruption of Category 1 or 2 in accordance with official EU lists. *The EU report on endocrine disruptors can be read in full at http://ec.europa.eu/environment/endocrine/index_en.htm*
- Nanomaterials/particles (*size <100 nm*)
- Substances that have been evaluated in the EU to be PBT or vPvB (see <http://ecb.jrc.ec.europa.eu/esis/index.php?PGM=pbt>)
- LAS (Linear alkylbenzene sulphonates)
- DADMAC (Diallyl dimethyl ammonium chloride)

- Exact recipe.
- Appendix 2 and 3 duly completed and signed, or equivalent signed declaration.

R9 Preservatives

The product may contain preservatives provide that the preservatives are not bioaccumulating. A preservative is not considered bioaccumulating if $BCF < 100$ or $\log K_{ow} < 3.0$. If both BCF and $\log K_{ow}$ values are available, the BCF values shall be used.

The concentration of every single substance classified as sensitizing, shall be $< 0,10$ %.

- Documentation of BCF or $\log K_{ow}$.
- Exact recipe- see K2.

R10 Colouring agents

Colouring agents must either be approved for use in foodstuffs or not considered bioaccumulating. A colouring agent is not considered bioaccumulating if $BCF < 100$ or $\log K_{ow} < 3.0$. If both BCF and $\log K_{ow}$ values are available, the BCF values shall be used.

- Documentation of BCF or $\log K_{ow}$ or specification of E-number.

1.2 Total content of chemicals

The following section applies to a single component system of dishwasher detergent, drying agent and presoak for professional use or the total quantity in the components of a multi-component system.

All components of a multi-component system for which the Nordic Ecolabel is sought must be included in the calculations. The calculations shall be based on the highest recommended dosage if the instructions specify different intervals.

All limit values exclude water.

R11 Critical Dilution Volume (CDV)

The critical dilution volume of a single or multi-component system must not exceed the limit values for CDV_{acute} or for $CDV_{chronic}$ specified by Table 3 (at the highest recommended dose).

Table 3. CDV at the highest recommended dosage

Parameter	Symbol (unit)	Dishwasher detergents and presoaks	Drying agents
Critical Dilution Volume	CDV_{acute} (litre/litre dishwater)	5000	8000
	$CDV_{chronic}$ (litre/litre dishwater)	1900	3000

Documentation shall primarily refer to the DID list of 2007 or later. For substances not covered by this list, other documentation such as test reports and literature references may be submitted.

The DID list can be found at:

http://ec.europa.eu/environment/ecolabel/ecolabelled_products/categories/did_list_en.htm

A worksheet for this calculation is available from Nordic Ecolabelling and can be downloaded from the Swedish and Danish Web sites:

<http://www.ecolabel.dk/producenter/kriterier/kriterieliste/kriteriedetaljer?marke=Svanen&produktgruppe=80>

<http://www.svanen.nu/Default.aspx?tabName=CriteriaDetail&menuItemID=6998&pgr=80>

The calculation formula for CDV can be found in Appendix 4.

The parameter and calculation formula are found in Section B of the guidelines to the DID list.

- ☒ Calculation of CDV for the single or multi-component system demonstrating compliance with the requirement. Specify whether the values are for CDV_{acute} or CDV_{chronic}.

R12 Aerobic Non-Biodegradable Organics (aNBO) and Anaerobic Non-Biodegradable Organics (anNBO)

The total quantity of organic substances that are aerobic non-biodegradable or anaerobic non-biodegradable in the single or multi-component system for professional use (at the highest recommended dosage) must not exceed the limit values specified in the following table.

Note that special requirements apply for surfactants (see R6).

Table 4. Limit values for aerobic and anaerobic biodegradability at the highest recommended dosage

Parameter	Symbol	Dishwasher detergents and presoaks	Drying agents
Aerobic non-biodegradable organics	aNBO (g/l dishwater)	0.4	0.04
Anaerobic non-biodegradable organics	anNBO (g/l dishwater)	0.4*	0.04*

*Iminodisuccinate (IDS) and cumene sulphonate are exempted from the requirements on anaerobic biodegradability.

- ☒ Calculation of aNBO and anNBO. The parameters and formulas required to document this requirement can be found in Appendix 4.
A worksheet is available from Nordic Ecolabelling.

R13 Phosphorous

The total quantity of phosphates and other phosphorous compounds must not exceed the limit values specified in gram of phosphorous per litre of dishwasher in Table 5. Dishwater refers to the in-use solution in the dishwasher. The highest recommended dosage shall be used for phosphorous calculations.

Table 5. Limit values for elementary phosphorous

Parameter	Dishwasher detergents and presoaks (g/l dishwater)	Drying agents (g/l dishwater)
Quantity of phosphorous	0.08	0.04

Products that contain more phosphorous than permitted by Norwegian regulations (max. 3.8% phosphorous) may not be sold or used in Norway nor in areas in which regulations and bans apply on the content of phosphorous of dishwashing chemicals.

Product control regulations: FOR 2004-06-01 nr 922: Regulations relating to restrictions on the manufacture, import, export, sale and use of chemicals and other products hazardous to health and the environment. Chapter 3-8.
“Detergents – phosphorous content”

- ☒ Calculation of the total quantity of elementary phosphorous in g/l dishwater.

R14 Phosphonates/phosphonic acids

The content of phosphonates/phosphonic acids must not exceed the limits specified in Table 6, calculated in grams per litre of dishwasher. Dishwater refers to the in-use solution in the dishwasher. The highest recommended dosage shall be used for the calculations.

Table 6. Limit values for the content of phosphonates/phosphonic acids

	Dishwasher detergents and presoaks (g/l dishwater)	Drying agents (g/l dishwater)
Phosphonates/ phosphonic acids	0.01	0.006

☒ Calculation of the total quantity of phosphonates/phosphonic acids in g/l dishwater.

1.3 Dosage and packaging

R15 Dosage

The product must be easily dispensed using an automatic dosage system. If the product is dispensed manually, clear dosage instructions shall be provided.

☒ Description of how dosage is normally performed.

R16 Plastic packaging and marking of packaging

PVC and other halogenated plastics must not be used for packaging or labels. Plastic materials shall be marked in accordance with DIN 6120 part 2 or equivalent. Small parts are exempted from this requirement.

☒ Product sheet or description demonstrating what types of plastic the packaging and label contain.

☒ Documentation of primary packaging demonstrating that marking complies with DIN 6120 or equivalent marking regulations.

1.4 Mandatory information and declaration of ingredients

R17 Declaration of ingredients

The declaration of ingredients shall comply with EU detergent regulation 648/2004/EC.

☒ Material safety data sheet, technical product data sheet or copy of the label displaying the declaration of ingredients.

R18 Mandatory information

Instructions for use stating the recommended dosage (g/l dishwasher) for appropriate water hardness values must be specified on the packaging or a product data sheet.

✉ Technical product data sheet or copy of the product label.

R19 User instructions and environmental advice

User instructions with the following or equivalent text must found on the product data sheet or product label:

- Only wash full machines
- Do not leave the dishwasher on for extended periods when not in use
- Avoid dosing too much and too little detergent
- Wash at the lowest temperature possible
- Information on disposal of empty packaging
- Printable version of user instructions (e.g. Web address)

Please contact the Nordic Ecolabelling body in the appropriate country for the texts applicable in the local language

✉ Copy of the product label or product data sheet demonstrating compliance with the requirement.

1.5 Performance and user test

The performance of the single or multi-component system must be satisfactory at the recommended dosage with soft water.

R20 Performance and user test

The performance and efficiency of the product must be satisfactory. The product must satisfy the requirements for the user test in accordance with Appendix 5.

The results from tests from more than ten test locations shall be submitted along with a report summarising these results and specifying the number and position of respondents.

Dosing must agree with the producer's recommendations. The test period must last for at least four weeks. At least 80% of test locations must assess the product as offering satisfactory or excellent performance on all accounts (see Appendix 5). Respondents must also be satisfied or very satisfied with the customer visit agreement.

✉ All complete, signed and submitted test reports. Use Appendix 5 or equivalent.

✉ A report summarising the test results and specifying the number and position of respondents.

1.6 Customer visits and visit reports

R21 Customer visits and visit reports

Customer visits shall be made during the licence period in accordance with the supplier's procedures and agreement with each customer. The manufacturer/supplier must have a standard procedure for customer visits. In exceptional cases, a customer visit may be waived if the distance and method of delivery makes the visit impractical and difficult. The customer visit may be performed by a third party, such as a test institute or consultancy firm. The visit report shall be the supplier's standard visit report and contain the following items:

- Check that users have access to care instructions for the dishwasher.
- Measurement of water hardness or certificate from the water supplier.
- Dosage recommendation at the particular water hardness.
- Current dosage.
- Offer to provide an environmental advice poster* free of charge.

* The following environmental advice must be included:

- Only wash full machines
- Do not leave the dishwasher on for extended periods when not in use
- Wash at the lowest temperature possible

Please contact the Nordic Ecolabelling body in the appropriate country for the texts applicable in the local language

- Copies of dated, signed and completed visit reports, containing the items listed above, from the five customer visits that have been made to fulfil the performance requirements under Section 1.5.
- Written report specifying the general procedures for customer visits and information on who conducts the visits, how often visits are made and which customers are visited.

2 Quality and regulatory requirements

To ensure that Nordic Ecolabelling requirements are fulfilled, the following procedures must be implemented. If the company's environmental management system is certified to ISO 14 001, EMAS or equivalent, where the following procedures are applied, it is sufficient if the accredited auditor reports that the requirements are implemented.

R22 Laws 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 Swan-labelled dishwasher detergent is manufactured.

Signed application form.

R23 Licence administrators

The company shall appoint a contact person responsible for ensuring the fulfilment of Nordic Ecolabel requirements.

A chart of the company's organizational structure detailing the responsible contacts.

R24 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.

R25 Quality of the dishwasher detergent

The licensee must guarantee that the production quality of the Nordic Ecolabelled dishwasher detergent (single or multi-component system), drying agent or presoak is maintained throughout the validity period of the licence.

Procedures for collating and, where necessary, dealing with claims and complaints regarding the quality of the Nordic Ecolabelled drying agent, presoak or dishwasher detergent for professional use.

R26 Changes and nonconformities

Written notice must be given to Nordic Ecolabelling of planned changes and unforeseen nonconformities that have a bearing on Swan requirements.

Procedures detailing how changes and nonconformities are handled.

R27 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.

R28 Take-back system

National regulations, legislation and/or agreements within the sector regarding the recycling systems for products and packaging shall be met in the Nordic countries in which the company markets its dishwasher detergent.

Copies of agreements from the applicant demonstrating adherence to existing recycling/take-back agreements.

R29 Marketing

Marketing of the Swan-labelled dishwasher detergent shall comply with "Regulations for Nordic Ecolabelling" of 12 December 2001 or later version.

Appendix 1 duly completed.

Marketing

The Nordic Ecolabel, the Swan, is a very well-known and well-reputed trademark in the Nordic region. Nordic Ecolabelled drying agent, presoak or dishwasher detergent for professional use may be marketed using the Swan label as 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 drying agent, presoak or dishwasher detergent for professional use is ecolabelled.

More information on marketing can be found in "Regulations for Nordic Ecolabelling" of 12 December 2001 or later version.

Design of the Nordic Ecolabel

Design of the Nordic Ecolabel:



Licence number

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

More information on the design of the label can be found in "Regulations for Nordic Ecolabelling" of 12 December 2001 or later version.

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:

- Application form for registration or original Nordic Ecolabel application*.
- Form for sales in other Nordic countries.
- Copy of licence.
- Copy of the product label and material safety data sheet.
- Product turnover in the country of registration.
- Documentation regarding affiliation to a take-back system.
- Any marketing material for the country of registration.
- That, if registering in Norway, the amount of phosphorus in the product complies with Norwegian regulations on phosphorus in dishwasher detergent**.
- Description of procedures for customer visits in the country of registration.
- The supplier/distributor in the country of registration if other than the licensee.

* If the applicant specifies in the original application that the product should be registered in a further Nordic country, this is sufficient. Nordic Ecolabelling then collates and forwards the documentation to the country or countries in question.

**FOR 2004-06-01 nr 922: Regulations relating to restrictions on the manufacture, import, export, sale and use of chemicals and other products hazardous to health and the environment.

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

Follow-up inspections

Nordic Ecolabelling may decide to check whether the drying agent, presoak or dishwasher detergent for professional use 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 drying agent, presoak or dishwasher detergent for professional use does not meet the requirements.

Random samples may also be taken from trade sources 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 dishwasher detergents for professional use on DAY MONTH YEAR. The criteria are valid until 30 June 2014.

An 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

The following will be reviewed ahead of new criteria: The requirements on phosphorous; the possibility to impose energy requirements; and the possibility to omit the exemption for IDS regarding anaerobic biodegradability.

Appendix 1 - Marketing of Nordic Ecolabelled dishwasher detergents, drying agents and presoaks

We hereby certify that we are well acquainted with the regulations governing the use of the Nordic Ecolabel, as detailed in "Regulations for Nordic Ecolabelling" of 12 December 2001 or later version. We agree to follow these regulations when marketing the Nordic Ecolabelled product.

Further, we confirm that we are familiar with the criteria document regarding the Swan labelling of dishwasher detergent for professional use.

We undertake to advise those individuals within the company involved in marketing the Nordic Ecolabelled dishwasher detergent for professional use of the criteria for the Nordic Ecolabelling of dishwasher detergent for professional use and "Regulations for Nordic Ecolabelling" of 12 December 2001 or later version.

Location and date	Company
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Signature, contact person

Name in block capitals	Phone
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Signature, marketing manager

Name in block capitals	Phone
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In case of a change in personnel, a new declaration must be submitted to Nordic Ecolabelling.

Appendix 2 - Declaration from the manufacturer of dishwasher detergent for professional use

Use this appendix when applying for a Nordic Ecolabel licence for dishwasher detergent for professional use.

Product name: _____

Type of product: _____

	Yes	No
Have any substances that are classified as sensitising, carcinogenic, mutagenic or toxic for reproduction been added to the product?	<input type="checkbox"/>	<input type="checkbox"/>
Does the product contain fragrances?*	<input type="checkbox"/>	<input type="checkbox"/>
Does the product contain reactive chlorine compounds?*	<input type="checkbox"/>	<input type="checkbox"/>
Does the product contain borates or perborates?*	<input type="checkbox"/>	<input type="checkbox"/>
Does the product contain EDTA?*	<input type="checkbox"/>	<input type="checkbox"/>
Does the product contain NTA?*	<input type="checkbox"/>	<input type="checkbox"/>
Does the product contain substances with potential for endocrine disruption of Category 1 or 2 in accordance with official EU lists? (See http://ec.europa.eu/environment/endocrine/documents/final_report_2007.pdf)	<input type="checkbox"/>	<input type="checkbox"/>
Does the product contain nanoparticles?*	<input type="checkbox"/>	<input type="checkbox"/>
Does the product contain substances that are evaluated by the EU as PBT or vPvB?	<input type="checkbox"/>	<input type="checkbox"/>
Does the ingredient contain colouring agent(s)?*	<input type="checkbox"/>	<input type="checkbox"/>

If yes, specify the E-number, BCF or logK_{ow} value: _____

** Constituent substances include all substances in the product, including additives in the ingredients (such as preservatives and stabilisers) but do not include impurities from primary production. Impurity refers to residues from primary production which may be found in the product at concentrations below 0.01% (100 ppm) provided the impurity has not been actively added for a particular purpose.*

If yes to any of the above, please explain: _____

Date: _____ Company name: _____

Signature (person responsible) _____

Name in block capitals _____ E-mail/Phone _____

Appendix 3 - Declaration from the ingredient manufacturer

Use this appendix when applying for a Nordic Ecolabel licence for dishwasher detergent for professional use.

Ingredient name: _____

Function of ingredient: _____

	Yes	No
Is the ingredient classified as sensitising, carcinogenic, mutagenic or toxic for reproduction or have any substances classified as such been added to the ingredient?	<input type="checkbox"/>	<input type="checkbox"/>
Does the ingredient contain fragrances?*	<input type="checkbox"/>	<input type="checkbox"/>
Does the product contain reactive chlorine compounds?*	<input type="checkbox"/>	<input type="checkbox"/>
Does the ingredient contain borates or perborates?*	<input type="checkbox"/>	<input type="checkbox"/>
Does the ingredient EDTA?*	<input type="checkbox"/>	<input type="checkbox"/>
Does the product contain NTA?*	<input type="checkbox"/>	<input type="checkbox"/>
Does the ingredient contain substances with potential for endocrine disruption of Category 1 or 2 in accordance with official EU lists? (<i>See</i> http://ec.europa.eu/environment/endocrine/documents/final_report_2007.pdf)	<input type="checkbox"/>	<input type="checkbox"/>
Does the ingredient nanoparticles?*	<input type="checkbox"/>	<input type="checkbox"/>
Does the product contain substances that are evaluated by the EU as PBT or vPvB?	<input type="checkbox"/>	<input type="checkbox"/>
Does the ingredient contain colouring agent(s)?*	<input type="checkbox"/>	<input type="checkbox"/>

If yes, specify the E-number, BCF or logK_{ow} value: _____

** Constituent substances include all substances in the product, including additives in the ingredients (such as preservatives and stabilisers) but do not include impurities from primary production. Impurity refers to residues from primary production which may be found in the product at concentrations below 0.01% (100 ppm) provided the impurity has not been actively added for a particular purpose.*

If yes to any of the above, please explain: _____

Date:

Company name:

Signature (person responsible)

Name in block capitals

E-mail/Phone

Appendix 4 - Test methods and equations

1 Requirements on the analysis laboratory

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

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

- the analyses and tests are monitored by the authorities, or if
- the manufacturer has a quality management system encompassing sampling and analysis and has been certified to ISO 9001 or ISO 9002, or
- the manufacturer can demonstrate that it is consistent with the initial analysis/testing performed as a parallel analysis/test by an accredited laboratory and the manufacturer's own laboratory and that the manufacturer takes samples in accordance with a predetermined sampling programme.

2 Ecotoxicological test methods

International test methods (OECD Guidelines for Testing of Chemicals, ISBN 92-64-1222144) or similar methods must be used. If equivalent methods are used, these must be evaluated by an independent body to ensure that the test results are equivalent. The test methods to be used are specified below.

3 Acute aquatic toxicity

Use test methods 201, 202 and 203 in the OECD Guidelines for the Testing of Chemicals (ISBN 92-64-1222144), or equivalent method to test aquatic acute toxicity.

** The European Commission has prohibited animal testing for all ingredients in cosmetic products as of March 2009. Regarding the determination of acute toxicity, the prohibition applies only to testing on fish (invertebrates are not covered by the ban). Accordingly, OECD test guideline no. 203 (acute toxicity – fish) can no longer be used to document acute toxicity. The result of acute toxicity tests on fish that were performed prior to March 2009 can continue to be used.*

4 Bioaccumulation

A substance is considered bioaccumulating if tested for bioaccumulation on fish according to method OECD 305 A-E and its bioconcentration factor (BCF) is >500 . If no BCF value has been determined, a substance is considered bioaccumulating if its $\log K_{ow}$ value ≥ 4.0 according to method 107, 117 or 123 in the OECD Guidelines for the Testing of Chemicals (ISBN 92-64-1222144) or equivalent method, unless proven otherwise. If highest measured BCF ≤ 500 , the substance is not considered bioaccumulating even if $\log K_{ow} \geq 4.0$.

OECDs test method 107 cannot be used for surface-active substances, which are both fat and water soluble. Based on current knowledge, for such substances it must be shown to a high degree of certainty that the substance itself and its decomposition products do not pose a long-term hazard to aquatic organisms

Computer models (such as BIOWIN) are permitted but if the results of an approximation are close to the set limit values or if Nordic Ecolabelling holds contradictory information, more reliable information is required.

5 Aerobic biodegradability

Test methods 301 (A to F) or 310 in the OECD Guidelines for the Testing of Chemicals (ISBN 92-64-1222144) should be used to test aerobic biodegradability.

Other scientifically accepted test methods may also be used. The test results of such equivalent methods must be evaluated by an independent body.

6 Anaerobic degradability

Use ISO 11734, ECOTOC no. 28 (June 1988) or equivalent test method to determine anaerobic biodegradability. For a substance to be considered to biodegrade anaerobically, a mineralisation of >60% within 60 days is required (equivalent to >60% ThOD/ThCO₂ or >70% DOC reduction).

Substances, other than surfactants, that are not found on the DID list may be exempted from the requirement on anaerobic biodegradability if the substance displays:

- Ready aerobic biodegradability and low adsorption ($A < 25\%$), or
- Ready aerobic biodegradability and high desorption ($D < 25\%$), or
- Ready aerobic biodegradability and no potential to bioaccumulate.

Test method 106 in the OECD Guidelines or ISO CD 18749 “Water quality – Adsorption of substances on activated sludge” is used to establish adsorption/desorption values.

7 DID list

The DID list is common to the European ecolabel and Nordic Ecolabelling. The list has been established in collaboration with stakeholders from industry and consumer and environmental organisations. The list contains information on the toxicity and biodegradability of substances that may be used in chemical/technical products. The DID list does not show which substances can be used in ecolabelled products.

The DID list cannot be used to document the toxicity of individual substances for classification purposes. For this purpose, MSDS, pertinent literature and information from the ingredient supplier shall be used.

The DID list is available from the ecolabelling body or via the national ecolabel website (see page 2 for addresses).

Valid to these criteria is the DID list dated January 2007 or later.

8 CDV calculation

Critical dilution volume, CDV_{acute} and $CDV_{chronic}$, is calculated as follows:

$$CDV_{acute} = \sum CDV(i) = 1000 \sum \text{dosage}(i) \times DF(i) / TF_{acute}(i), \text{ or}$$

$$CDV_{chronic} = \sum CDV(i) = 1000 \sum \text{dosage}(i) \times DF(i) / TF_{chronic}(i)$$

$Dosage(i)$ = Dosage of ingredient (i), expressed in g/l

$DF(i)$ = Degradation factor of ingredient (i), as specified on DID list.

$TF_{acute}(i)$ = Acute toxicity factor of ingredient (i), as specified on DID list.

$TF_{chronic}(i)$ = Chronic toxicity factor of ingredient (i), as specified on DID list.

DF and TF shall where possible be taken from the DID list dated January 2007 or later.

http://ec.europa.eu/environment/ecolabel/ecolabelled_products/categories/pdf/did_list/didlist_part_b_en.pdf

If an ingredient is not found on the DID list, the factors shall be set as follows:

DF (see also Part B of the DID list):

0.05 for organic substances that are readily biodegradable according to Appendix 2.

0.15 for organic substances that are readily biodegradable according to Appendix 2 but for which the 10-day window is not met (excluding surfactants).

0.5 for organic substances that are inherently biodegradable according to Appendix 2.

1.0 for persistent organic substances.

TF (see also Part B of the DID list):

$TF = \text{toxicity} / SF$,

where the toxicity is the lowest found acute LC50/EC50/IC50 value, and SF is determined according to the following.

SFacute (see also Part B of the DID list):

1 000 Substances with acute toxicity data for each of three trophic levels.

5 000 Substances with acute toxicity data for two trophic levels.

10 000 Substances with acute toxicity data for only one trophic level.

SFchronic (see also Part B of the DID list):

- 10 Substance with three long-term NOEC from at least three species representing three trophic levels.
- 50 Substance with two long-term NOEC from at least two species representing two trophic levels.
- 100 Substances with one long-term NOEC (fish or crustaceans).

Appendix 5 – User test

1. Responses must be gained from at least five test locations representing a random selection of customers.
2. The procedure and dosing must be in accordance with the producer's recommendations.
3. The test period must last for at least four weeks.
4. Each test location shall evaluate the performance of the product by assessing the following areas:
 - The product's ability to remove soiling from the dishes.
 - The product's ability to dry the dishes.
 - The product's ability to prevent mineral deposits on the dishes and dishwasher.
 - The respondent's satisfaction with the agreement on customer visits.
5. The answers must be assessed on a scale with at least three levels. E.g. "poor performance", "satisfactory performance" and "excellent performance". As regards the test location's satisfaction with the agreement on customer visits, the categories should be "not satisfied", "satisfied" and "very satisfied".
6. At least five test locations must submit answers. At least 80% of test locations must assess the product as offering satisfactory performance or excellent performance on all accounts (see Item 4). Respondents must also be satisfied or very satisfied with the customer visit agreement.
7. All raw data from the test must be presented.
8. The test procedure must be presented in detail.

User test (dishwasher detergent, drying agent and presoak for professional use)

Customer and test location (including address)

Name and function of each product:

Recommended dosage _____ **at** _____ **dh (water hardness)**

Actual dosage _____ **at** _____ **dh (water hardness)**

Water temperature _____ **°C**

	Poor performance	Satisfactory performance	Excellent performance
Ability of the dishwasher detergent to remove soiling.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ability of the drying agent to dry the dishes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The product's ability to prevent mineral deposits on the dishes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The product's ability to prevent mineral deposits on the dishwasher.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
How satisfied are you with the customer visit agreement?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments: _____

Description of the test procedure:

What is the test location's primary activity (e.g. hotel, restaurant or school)?

What type of soiling was most difficult to remove and from what type of goods?

How often are dishes rewashed?

Other comments _____:

Contact details of test location

Contact person: _____

E-mail: _____

Phone: _____

Name

Date, location

Appendix 6 – Information on classifications (R3)

Dangerous for the environment

R50: Very toxic to aquatic organisms

R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

R52: Harmful to aquatic organisms

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

R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment

H410: Very toxic to aquatic life with long lasting effects

H411: Toxic to aquatic life with long lasting effects.

H412: Harmful to aquatic life with long lasting effects

H413: May cause long lasting harmful effects to aquatic life

Inhalation, oral, dermal

R20: Harmful by inhalation

R21: Harmful by contact with skin

R22: Harmful if swallowed

H332: Harmful if inhaled

H312: Harmful in contact with skin

H302: Harmful if swallowed

Corrosive

R34: Causes burns

R35: Causes severe burns

H314: Causes severe skin burns and eye damage

Sensitization

R42: May cause sensitization by inhalation

R43: May cause sensitization by skin contact

H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled

H317: May cause an allergic skin reaction

Cancer, teratogenic

R40: Possible risk of cancer

R45: May cause cancer

R49: May cause cancer by inhalation

R46: May cause heritable genetic damage

R60: May impair fertility