Nordic Ecolabelling of

Dishwasher detergents

Version 5.3 • 15 December 2009 – 30 June 2015
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017 Dishwasher detergent, Version 5.3, 16 April 2013

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

Addresses

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

Denmark
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DK-2920 Charlottenlund
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www.ecolabel.se

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www.ecolabel.no

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FI-00101 Helsinki
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www.ecolabel.fi
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E-mail: svanurinn@ust.is
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This document may only be copied in its entirety and without any kind of alteration. It may be quoted from provided that Nordic Ecolabelling is stated as the source.
Why choose the Nordic Ecolabel?

- The company may use the Nordic Ecolabel trademark for marketing. The Nordic Ecolabel 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.
- Environmentally suitable operations prepare the company for future environmental legislation.
- Environmental issues are complex. It can take a long time to gain an understanding of a specific area. Nordic Ecolabelling 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 Nordic Ecolabel licence can also be seen as a mark of quality.

What can carry the Nordic Ecolabel?

Dishwasher detergent and a combination of dishwasher detergent and rinsing agent for household dishwashers can be Nordic Ecolabelled. Rinsing agent alone cannot be labelled. If the rinsing agent and the dishwasher detergent will be labelled, the combination of the rinsing agent and dishwasher detergent must fulfil the ecolabelling requirements.

How to apply

The criteria for dishwasher detergent comprise a combination of obligatory requirements and point score requirements. The letter “O” and a number or letter “M” and a number indicate obligatory requirements. These requirements must be fulfilled. (M denote quality and regulatory requirements in manufacturing.)

The letter ”P” and a number distinguish point score requirements. Each requirement of this type gives a point score. These scores are then totalled. A minimum total score must be achieved to fulfil the licence constraints.

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.
- Submit procedure in environmental and quality management system.
Application

The application shall be sent to Nordic Ecolabelling in the country in which the dishwasher detergent is sold. See page 2 for addresses. The documents required for application are an application form and documentation demonstrating fulfilment of the requirements (specified in the criteria).

Further information and assistance when applying 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 the country in question.
- Instruction manual in the local language.
- Documentation demonstrating the fulfilment of national regulations.
- Documentation demonstrating participation in a recycling system.

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

On-site inspection

During the application process, Nordic Ecolabelling normally performs an on-site inspection to ensure adherence to the requirements. For this inspection, data used for calculations, original copies of submitted certificates, 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 revenues produced by the dishwasher detergent carrying the Nordic Ecolabel.

Enquiries

Please contact Nordic Ecolabelling if you have any queries or require further information. See page 2 for addresses.
What are the requirements of Nordic Ecolabelling?

To be awarded a Nordic Ecolabelling licence:
- All obligatory requirements must be fulfilled.
- All quality and regulatory requirements must be fulfilled.
- A minimum score of 5 points must be achieved.

Total score

The dishwasher detergent must score at least 5 points to be eligible for Nordic Ecolabelling.

<table>
<thead>
<tr>
<th>Section</th>
<th>Max. score</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1 CDV</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>P2 Phosphorous content</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>P3 Fragrance content</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>P4 and P5 Dosage</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>P6 Controlled dosage</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>P7 Fill ratio</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>P8 Performance</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>12</td>
</tr>
</tbody>
</table>
1 Obligatory requirements on products and constituent substances

The term constituent substance refers to all substances in the product, including additives in the ingredients (such as preservatives and stabilisers). It does not however 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.

These criteria for dishwasher detergents provide the possibility to apply for a licence for a combination of detergent and rinsing agent (integrated or joint product). An integrated/joint product must fulfil the same requirements as dishwasher detergent alone. Rinsing agent that is sold in a separate package must fulfil the requirements together with the associated dishwasher detergent, and marketing and promotion must create a clear connection between these items. The standard dosage of rinsing agent is 1-6 ml. For application, 6 ml shall be used for calculations, which is the maximum dosage for most dishwashers.

1.1 General requirements

Obligatory requirements

O1 Recipe

The exact recipe for the product shall be submitted to Nordic Ecolabelling. The recipe shall include the trade name, chemical name, quantity, CAS register number and DID number of each ingredient. The function of each ingredient shall be stated. The recommended dosage must be stated as a mass, and whether the detergent is a powder or tablet.

The DID number is the number assigned to an ingredient on the DID-list and shall be used for the evaluation of chemical requirements. The DID-list is available from Nordic Ecolabelling. See page 2 for addresses. See Appendix 2 for more information about the DID-list.

☐ Exact recipe as detailed above and material safety data sheet/product data sheet for each ingredient, in accordance with 2001/58/EG.

O2 Classification of the product

Products must not be classified according to table 1 below, 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. During a transition period, i.e. until 1 June 2015, can classification according to European Dangerous Substances Directive 67/548/EEC or the CLP regulation be used. Following the transition period, classification must comply with Annex VII of the CLP regulation (see Table 1).
<table>
<thead>
<tr>
<th>Classification</th>
<th>Hazard symbol and risk phrase / Hazard category and statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazardous to the aquatic environment</td>
<td><strong>European Dangerous Substances Directive 67/548/EEC</strong></td>
</tr>
<tr>
<td></td>
<td>CLP regulation 1272/2008</td>
</tr>
<tr>
<td></td>
<td>H400—Very Toxic to aquatic life, Category 1.</td>
</tr>
<tr>
<td></td>
<td>H410—Very toxic to aquatic life with long lasting effects, Category 1.</td>
</tr>
<tr>
<td></td>
<td>H411—Toxic to aquatic life with long lasting effects, Category 2.</td>
</tr>
<tr>
<td></td>
<td>H412—Harmful to aquatic life with long lasting effects, Category 3.</td>
</tr>
<tr>
<td></td>
<td>H413—May cause long lasting harmful effects to aquatic life, Category 4.</td>
</tr>
<tr>
<td>Very Toxic</td>
<td><strong>Tx (T+ in Norway)</strong> with R26, R27, R28 with/or R39</td>
</tr>
<tr>
<td></td>
<td>H300—Acute Toxicity Oral, categories 1 and 2.</td>
</tr>
<tr>
<td></td>
<td>H310—Acute toxicity (dermal), Hazard Category 1, 2.</td>
</tr>
<tr>
<td></td>
<td>H330—Acute toxicity (inhalation), Hazard Category 1, 2.</td>
</tr>
<tr>
<td></td>
<td>H370—Specific target organ toxicity — single exposure, Hazard Category 1.</td>
</tr>
<tr>
<td>Toxic</td>
<td><strong>T with R23, R24, R25, R39 and/or R48</strong></td>
</tr>
<tr>
<td></td>
<td>H301—Acute toxicity (oral), Hazard Category 3.</td>
</tr>
<tr>
<td></td>
<td>H311—Acute toxicity (dermal), Hazard Category 3.</td>
</tr>
<tr>
<td></td>
<td>H330—Acute toxicity (inhalation), Hazard Category 1, 2.</td>
</tr>
<tr>
<td></td>
<td>H372—Specific target organ toxicity — Repeated exposure, Hazard Category 1.</td>
</tr>
<tr>
<td>Carcinogenic</td>
<td><strong>Carc with R40, R45 and/or R49</strong></td>
</tr>
<tr>
<td></td>
<td>H350—Carcinogenicity, Hazard Category 1A, 1B.</td>
</tr>
<tr>
<td></td>
<td>H351—Carcinogenicity, Hazard Category 2.</td>
</tr>
<tr>
<td>Mutagenic</td>
<td><strong>Mut with R46 and/or R68</strong></td>
</tr>
<tr>
<td></td>
<td>H340—Germ cell mutagenicity, Hazard Category 1A, 1B.</td>
</tr>
<tr>
<td></td>
<td>H341—Germ cell mutagenicity, Hazard Category 2.</td>
</tr>
<tr>
<td>Reproductive toxic</td>
<td><strong>Repr with R60, R61, R62, R63 and/or R64</strong></td>
</tr>
<tr>
<td></td>
<td>H360—Reproductive toxicity, Hazard Category 1A, 1B.</td>
</tr>
<tr>
<td></td>
<td>H361—Reproductive toxicity, Hazard Category 2.</td>
</tr>
<tr>
<td></td>
<td>H362—Reproductive toxicity, Additional category, Effects on or via lactation</td>
</tr>
<tr>
<td>Harmful</td>
<td><strong>Xn with R20, R21, R48, R65 and/or R68</strong></td>
</tr>
<tr>
<td></td>
<td>H304—Aspiration hazard, Hazard Category 1.</td>
</tr>
<tr>
<td></td>
<td>H312—Acute toxicity (dermal), Hazard Category 4.</td>
</tr>
<tr>
<td></td>
<td>H332—Acute toxicity (inhal.), Hazard Category 4.</td>
</tr>
<tr>
<td></td>
<td>H371—Specific target organ toxicity — Single exposure, Hazard Category 2.</td>
</tr>
<tr>
<td></td>
<td>H373—Specific target organ toxicity — Repeated exposure, Hazard Category 2.</td>
</tr>
<tr>
<td>Sensitizing</td>
<td><strong>Xi with R43 Xn with R42</strong></td>
</tr>
<tr>
<td></td>
<td>H317—Sensitisation — Skin, Hazard Category 1.</td>
</tr>
<tr>
<td>Corrosive</td>
<td><strong>C with R34 or R35</strong></td>
</tr>
<tr>
<td></td>
<td>H314—Skin corrosion/irritation, Hazard Category 1A, 1B, 1C.</td>
</tr>
</tbody>
</table>

Note that the marketer of the product is responsible for the classification.

☐ MSDS/product sheet complying with Directive 2001/58/EC.

**O3 Carcinogenic, mutagenic and reproduction toxic substances (CMR)**

No substances that are classified with the following risk phrases, or combinations thereof, may be included in the product or result from the degradation of substances in the product.

Table 2. Classification of ingoing substances

<table>
<thead>
<tr>
<th>Classification</th>
<th>Hazard symbol and risk phrase / Hazard category and statement</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>European Dangerous Substances Directive 67/548/EEC</td>
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<tr>
<td></td>
<td>H350–Carcinogenicity, Hazard Category 1A, 1B</td>
</tr>
<tr>
<td></td>
<td>H351*–Carcinogenicity, Hazard Category 2</td>
</tr>
<tr>
<td>Mutagenic</td>
<td>Mut with R46 and/or R68</td>
</tr>
<tr>
<td></td>
<td>H340–Germ cell mutagenicity, Hazard Category 1A, 1B</td>
</tr>
<tr>
<td></td>
<td>H341–Germ cell mutagenicity, Hazard Category 2</td>
</tr>
<tr>
<td>Reproductive toxic</td>
<td>Repr with R60, R61, R62, R63 and/or R64</td>
</tr>
<tr>
<td></td>
<td>H360–Reproductive toxicity, Hazard Category 1A, 1B</td>
</tr>
<tr>
<td></td>
<td>H361–Reproductive toxicity, Hazard Category 2</td>
</tr>
<tr>
<td></td>
<td>H362–Reproductive toxicity, Additional category, Effects on or via lactation</td>
</tr>
</tbody>
</table>

*Complexing agents such as MGDA and GLDA may contain impurities below 1.0 % of NTA in the raw material, as long as the concentration of NTA in the end product is below 0.1 %.

☐ Declaration of fulfilment (Appendices 3, 4 and 5 can be used).

**O4 Allergenic substances**

The product must not contain more than 0.1 wt% of any single substance classified as:

- R42 (May cause sensitization by inhalation) / H334 (Sensitisation — Respirat., Hazard Category ) and/or
- R43 (May cause sensitization by skin contact) / H317 (Sensitisation — Skin, Hazard Category 1)

Enzymes are exempted from this requirement.

☐ Declaration of fulfilment (Appendices 3, 4 and 5 can be used).

**O5 Enzymes**

Enzymes may be present in liquid form or as dust-free granulate.

☐ Declaration from the enzyme producer or details on the MSDS/product data sheet.
1.2 Requirements on particular substances

Obligatory requirements

O6 Critical Dilution Volume (CDV)
The products critical dilution volume must not exceed 70,000 litres/wash.

Multifunction tablets that meet performance requirements without the addition of salt and rinsing agent may have a maximum CDV of 80,000 litres/wash.

If the application is for both dishwasher detergent and rinsing agent, these must be calculated together.

☐ Calculation of the critical dilution volume for the product. The parameters and formulas required to document this requirement can be found in Appendix 2.

O7 Environmentally hazardous substances

This requirement applies to substances that are included in the product or are intentionally released during use. Here the fragrance mixture is considered as one substance, i.e. it is not necessary to specify the classification of the individual fragrance substances.

No substances that are classified with the following risk phrases/hazard statement may be included in the product:

- R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment / H410 Very toxic to aquatic life with long lasting effects.

The product may contain a maximum of 0.1 g/wash of any substance that is classified with the following risk phrases/hazard statement:

- R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. / H411 Toxic to aquatic life with long lasting effects.

- R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. / H412 Harmful to aquatic life with long lasting effects.

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

* In accordance to the DID-list or test method No. 301 A-F or No. 310 in OECD guidelines for testing of chemicals or other equivalent test methods.

** In accordance to the DID-list or ISO 11734, ECETOC No. 28 (June 1988) or other equivalent test methods, where a minimum of 60% degradability under anaerobic conditions is achieved.

☐ Declaration of surfactants that are exempted from the requirement (quantity, classification, degradability).

☐ Declaration of fulfilment (Appendices 3, 4 and 5 can be used). Submit also a specification of the total quantity of R51/53 / H411 and R52/53 / H412 substances. If data is missing, the substance is evaluated as a worst case.

O8 Phosphorous

The total quantity of phosphorous must not exceed 2.0 g/wash.

The total quantity of phosphonates must not exceed 0.05 g/wash.

National legislation takes precedence over this requirement.

☐ Exact recipe and declaration of the total quantity of phosphorous.

Are the requirements met?

Yes ☐ No ☐

Appendix No _____

Yes ☐ No ☐

Appendix No _____

Yes ☐ No ☐

Appendix No _____

Appendix no. _____
Complexing agents

The following substances are not allowed:

- EDTA
- NTA
- DTPA

Please, see O3 regarding impurities of NTA.

☐ Declaration of fulfilment (Appendices 3 and 4 can be used).

Bleaching agents

The following substances are not allowed:

- Perborates
- Reactive chlorine compounds.

☐ Declaration of fulfilment (Appendices 3 and 4 can be used).

APEO, APD and LAS

The following surfactants are not allowed:

- alkylphenol ethoxylates (APEO)
- alkylphenol derivatives (APD)
- linear alkylbenzene sulphonates (LAS)

☐ Declaration of fulfilment (Appendices 3 and 4 can be used).

Point score requirements

Critical Dilution Volume (CDV, litres/wash)

The products critical dilution volume is lower than 25,000: 3p

The products critical dilution volume is between 25,000 and 50,000: 2p

The products critical dilution volume is between 50,000 and 65,000: 1p

The CDV limit for multifunction tablets that meet performance requirements without the addition of salt and rinsing agent may be raised 10,000 litres/wash in each interval.

☐ See O6.

Phosphorous

The formulation is phosphate free: 1p

☐ See O8.

Degradation

Obligatory requirements

Readily biodegradable surfactants

Surfactants must be readily biodegradable in accordance with test method 301 A-F in OECD Guidelines for Testing of Chemicals, or other equivalent test method. It is, however, not necessary to fulfil the so-called 10-day window.

☐ Documentation that primarily refers to the DID-list dated January 2007 or later. For surfactants not covered by this list, other documentation such as test reports and copies of literature references may be submitted.

DID-list: Detergents Ingredients Database.
O13  **Anaerobic degradation**  
The content of substances that are not readily anaerobically biodegradable in the dishwasher detergent must not exceed 1.2 g/wash. Applies to organic substances only.

Documentation that primarily refers to the DID-list dated January 2007 or later. For substances not covered by this list, other documentation such as test reports and copies of literature references may be submitted. For test methods, see Appendix 2.

*DID-list: Detergents Ingredients Database.*

1.4  **Fragrances, colorants and preservatives**

**Obligatory requirements**

O14  **IFRA**

If fragrance is used this must be done in accordance with IFRA guidelines.  
*International Fragrance Association (IFRA) guidelines, www.ifraorg.org/guidelines.asp*

Declaration from the fragrance manufacturer. Appendix 5 can be used.

O15  **Musk compounds**

The product must not contain the following compounds (with CAS no.):

- Musk xylene 81-15-2
- Musk ambrette 83-66-9
- Moskene 116-66-5
- Musk tibetine 145-39-1
- Musk ketone 81-14-1
- HHCB 11409-62-5, 11409-63-6, 1222-05-5, 78448-48-3, 78448-49-4
- AHTN 1506-02-1, 21145-77-7

Declaration from the fragrance manufacturer. Appendix 5 can be used.

O16  **Allergenic substances in fragrances**

Substances listed below or other fragrance substances classified as sensitizing with R43 / H317 and/or R42 / H334 may not be present in the product in concentrations above 0,010 wt% (100 ppm).

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS No.</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amylcinnamyl alcohol</td>
<td>101-85-9</td>
<td>122-40-7</td>
</tr>
<tr>
<td>Anisyl alcohol</td>
<td>105-13-5</td>
<td>100-51-6</td>
</tr>
<tr>
<td>Benzyl benzoate</td>
<td>120-51-4</td>
<td>103-41-3</td>
</tr>
<tr>
<td>Benzyl salicylate</td>
<td>118-58-1</td>
<td>104-55-2</td>
</tr>
<tr>
<td>Cinnamyl alcohol</td>
<td>104-54-1</td>
<td>5392-40-5</td>
</tr>
<tr>
<td>Citronellol</td>
<td>106-22-9</td>
<td>91-64-5</td>
</tr>
<tr>
<td>d-Limonene</td>
<td>5989-27-5</td>
<td>97-53-0</td>
</tr>
<tr>
<td>Farnesol</td>
<td>4602-84-0</td>
<td>106-24-1</td>
</tr>
<tr>
<td>Hexyl cinnamaldehyde</td>
<td>101-86-0</td>
<td>107-75-5</td>
</tr>
<tr>
<td>Hydroxymethylphenyl cyclohexene-</td>
<td>31906-04-4</td>
<td>97-54-1</td>
</tr>
<tr>
<td>carboxaldehyde</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-(tert-Butylbenzyl) propion-</td>
<td>80-54-6</td>
<td>78-70-6</td>
</tr>
<tr>
<td>aldehyde</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methyl heptyl carbonat</td>
<td>111-12-6</td>
<td>127-51-5</td>
</tr>
<tr>
<td>Oak moss extract</td>
<td>90028-68-5</td>
<td>90028-67-4</td>
</tr>
</tbody>
</table>

Declaration from the fragrance supplier. Appendix 5 can be used.
O17 Approved colorants
All organic colorants added to the product as ingredients or through raw materials shall fulfil the following requirement:

The colorant must be approved for use in foodstuffs or must not be bioaccumulating (logKow < 3.0 or BCF < 100).

- Declaration of fulfilment (Appendices 3 and 4 can be used).
- Specification of E-number (number designated on approval of foodstuff status), alternatively the logKow value (octanol-water partition coefficients) or BCF value (bioconcentration factor).

O18 Preservatives
Preservatives must not be bioaccumulating. This requirement applies to all preservatives in product ingredients and raw materials.

- All preservatives must be stated in the recipe. Information regarding the bioaccumulability of the preservative must also be submitted. See Appendix 2 for the evaluation of bioaccumulability.

Point score requirements
P3 Fragrances
The formulation is fragrance free: 1p

or

The fragrance contains no substances that are classified as R50/53 / H410, R51/53 / H411 and/or R52/53 / H412: 1p

Here, the various fragrance components must be dealt with individually. The classification of the fragrance mixture is not considered as one substance in this requirement.

- Exact recipe.
1.5 Dosage

Obligatory requirements

O19 Powder and tablets without rinsing agents
Maximum dosage: 18 g/wash.
Exact recipe.

O20 Combination with rinsing agent
Maximum dosage: 20 g/wash. If the application is for rinsing agent sold as a joint product with dishwasher detergent, the dosage of rinsing agent is calculated from the active substance in 6 ml of agent.
Exact recipe.

Point score requirements

P4 Powder and tablets without rinsing agent

<table>
<thead>
<tr>
<th>Dosage, g/wash</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤ 13</td>
<td>3</td>
</tr>
<tr>
<td>≤ 15</td>
<td>2</td>
</tr>
<tr>
<td>≤ 17</td>
<td>1</td>
</tr>
</tbody>
</table>

Exact recipe.

P5 Powder and tablets in combination with rinsing agent

If the application is for rinsing agent sold as a joint product with dishwasher detergent, the dosage of rinsing agent is calculated from the active substance in 6 ml of agent.

<table>
<thead>
<tr>
<th>Dosage, g/wash</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤ 15</td>
<td>3</td>
</tr>
<tr>
<td>≤ 17</td>
<td>2</td>
</tr>
<tr>
<td>≤ 19</td>
<td>1</td>
</tr>
</tbody>
</table>

Exact recipe.

P6 Controlled dosage

The dishwasher detergent is in tablet or capsule form: 1p
Exact recipe.
2 Packaging and consumer information

Obligatory requirements

O21 General information
The declaration of contents must comply with Regulation 648/2004/EC and 907/2006/EC on detergents.

The recommended dosage must only be specified for soft water (0-6 dH). The dosage specified must be the same as that used in performance tests. For hard water, it must be recommended to use the water softener in the dishwasher. An exception is if a multifunction product fulfils performance requirements without the use of salt in the machine. In this case the recommendation is not necessary. The text regarding water softening is not required in Norway.

- Sample of label.
- MSDS or technical product data sheet.

O22 Information on phosphates
If the product contains phosphates, the product must display the following or equivalent text:

“Products that contain phosphates should only be used by households that are connected to a district wastewater treatment system.”

This requirement does not apply to the Norwegian market, which has its own regulations on phosphorus content.

- Sample of label.

O23 Weight-to-benefit ratio (WBR)
The products weight-to-benefit ratio (WBR) must not exceed 4.0 g/wash.

Refer to Appendix 2 for the calculation of the product’s weight-to-benefit ratio (WBR).

- Calculation of the WBR for the product.
- Statement of the packaging’s content of recycled material.

O24 Plastic packaging
PVC and other halogenated plastics must not be used for packaging.

Plastic packaging must be marked with the polymer type and corresponding symbol according to DIN 6120, section 2, or equivalent.

- Declaration that the requirement has been met.

Point score requirements

P7 Fill ratio
The fill ratio is the ratio between the number of doses and the package volume in litres. This can be calculated as the average for all package sizes for the same product variant.

<table>
<thead>
<tr>
<th>Fill ratio, doses/litre</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 30</td>
<td>2</td>
</tr>
<tr>
<td>≥ 25</td>
<td>1</td>
</tr>
</tbody>
</table>

- Calculation of the fill ratio.
3 Performance

Obligatory requirements

O25  Dishwasher detergent performance
The performance of the dishwasher detergent must at the standard recommended dose equal or better the reference detergent, see Appendices 6 to 8.

Performance shall be tested using one of the following methods:
• EN 50242 (1998 or later version) with the modifications detailed in Appendix 6 “Performance test supplement”.
• Standard test for dishwasher detergents developed by IKW (German Industrial Association of the Manufacturers of Toiletries and Detergents). The product must meet the Pass/Fail level requirements, see Appendix 7.
• Comparable performance test (internal or external) that has been assessed as equivalent by an independent party. An example of a framework test that may be approved is provided in Appendix 8.
• The product carries the EU Flower.

Test method, test results and conclusions.

Point score requirements

P8  Dishwasher detergent performance
The dishwasher detergent passes the performance test at a temperature of 50 degrees or lower: 2p
The dishwasher detergent must be tested against a reference detergent that cleans at 55 degrees.

Test method, test results and conclusions.
4 Quality and regulatory requirements

To ensure that Nordic Ecolabelling’s requirements are fulfilled, the following procedures must be implemented.

Obligatory requirements

M1 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 Nordic Ecolabelled dishwasher detergent is manufactured.

Signed application form.

M2 Nordic Ecolabelling licence administrator
The company shall appoint an individual responsible for ensuring the fulfilment of Nordic Ecolabelling requirements, and a contact person for communications with Nordic Ecolabelling.

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

M3 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.

M4 Changes and nonconformities
Written notice must be given to Nordic Ecolabelling of planned changes and unforeseen nonconformities that have a bearing on Nordic Ecolabelling requirements.

Procedures detailing how changes and nonconformities are handled.

M5 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.

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

M6 Marketing
Marketing of the Nordic Ecolabelled dishwasher detergent shall comply with “Regulations for the Nordic Ecolabelling of products” of 22 June 2011 or later version.

Appendix 1 duly completed.
Design of the Nordic Ecolabel

Design of the Nordic Ecolabel:

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

Rinsing agent: the packaging must clearly state that the licence for the rinsing agent is only valid together with a specified dishwasher detergent. The name of this dishwasher detergent must be stated.

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

Follow-up inspections

Nordic Ecolabelling may decide to check whether the product fulfils Nordic Ecolabelling's 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 requirements are not fulfilled.

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 version 5 of the criteria for dishwasher detergents on December 15 2009. These criteria are valid through December 31 2012.

On 15 November 2011, the Secretariat Manager’s Meeting decided to prolong the validity until 30 June 2014. The new version is called 5.1.

On 12 December 2012 the Nordic Ecolabelling Board decided to adopt a change in O7. The new version is called 5.2.

On 16 April 2013, the Secretariat Manager’s Meeting decided to prolong the validity until 30 June 2015. The new version is called 5.3.

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.

At least one year prior to the expiry of the present criteria, the criteria will be revised or extended.

New criteria

The following will be reviewed in future criteria:

- Further limitation of the use of phosphates.
- Limitation of the use of fragrances that contain environmentally hazardous substances.
- Possibility to require the use of renewable primary products.
- Possibility to set requirements on the manufacture of the dishwasher detergent.
Appendix 1  Marketing of Nordic Ecolabelled dishwasher detergents

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 dishwasher detergent.

Further, we confirm that we are familiar with the criteria document regarding the Nordic Ecolabelling of dishwasher detergent.

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

_________________________  __________________________
Location and date           Company

_________________________
Signature, contact person

_________________________  __________________________
Clarification of signature  Phone

_________________________
Signature of marketing director

_________________________  __________________________
Clarification of signature  Phone

In case of a change in personnel, a new declaration must be submitted to Nordic Ecolabelling.
**Appendix 2 Formulas and test methods**

**CDV calculation**

The critical dilution volume (CDV) is calculated as follows:

\[
CDV = 1000 \times \sum \frac{\text{Dosage}(i) \times DF(i)}{TF(i)}
\]

Dosage\((i)\) = Dosage of component \(i\), expressed in g/wash

DF\((i)\) = Degradation factor for component \(i\).

TF\((i)\) = Toxicity factor for component \(i\).

\(DF(i)\) and \(TF(i)\) are specified in the DID-list. Reference shall be made to the DID-list. If the substance is listed on the DID-list, the parameters shall be calculated in accordance with the guidelines in section B of the DID-list. Documentation providing a background to the calculations shall be enclosed with the application.

**Weight-to-benefit ratio (WBR)**

WBR is calculated for primary packaging only:

\[
WBR = \sum \left[ \frac{(Wi + Ni)}{(Di \times ti)} \right],
\]

where

\(Wi\) = weight (g) of packaging component \((i)\) including label.

\(Ni\) = weight (g) of non-recycled (virgin) material in packaging component \((i)\). If the proportion of recycled material in the packaging component is 0%, \(Ni = Wi\).

\(Di\) = number of standard recommended dosages that packaging \((i)\) contains.

\(ti\) = the number of times packaging component \((i)\) is used for the same purpose through a return or refill system \((r=1\) if the packaging is not reused for the same purpose). 

**Analysis and test laboratories**

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:

- sampling and analysis is monitored by the authorities, or
- the manufacturer’s quality assurance system covers analysis and sampling and is certified to ISO 9001 or ISO 9002, or
- the manufacturer can demonstrate agreement between a first-time test conducted at the manufacturer’s own laboratory and testing carried out in parallel at an independent test institute, and the manufacturer takes samples in accordance with a fixed sampling schedule.
**Acute aquatic toxicity**

Use test methods 201, 202 and 203 in the OECD guidelines for testing of chemicals, or equivalent method to test acute aquatic toxicity.

**Bioaccumulation**

If nothing else is proven, the substance is classified as bioaccumulating if log-Kow ≥ 3.0 in accordance with OECD guidelines 107, 117 or equivalent. Such a substance can be tested on fish according to OECD test method 305 A-E. If the substance’s biologic concentration factor (BCF) is greater than 100, the substance is deemed bioaccumulating, and if lower than 100 non-bioaccumulating. If the substance has a BCF, this determines the substance’s bioaccumulation potential.

**Aerobic degradation**

Use test method 301 (A to L) in the OECD guidelines for testing of chemicals (or equivalent method to test aerobic degradation.

**Anaerobic degradation**

Use ISO 11734, ECOTOX no. 28 (June 1988) or equivalent test method to determine anaerobic degradation. The minimum requirement is 60% biodegradability under anaerobic conditions.

The following exceptions can be made for substances that are not toxic to the aquatic environment (LC_{50}/EC_{50}/IC_{50}>10 mg/l)

1) Ready biodegradability and low adsorption (A < 25%), or
2) Ready biodegradability and high desorption (D > 75%), or
3) Ready biodegradability and not bioaccumulating.

Adsorption/desorption can be tested according to OECD guidelines 106 or ISO CD 18749 "Water quality - Adsorption of substances on activated sludge - Batch test using specific analytical methods”.

**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, consumer organisations and environmental bodies. The list contains information on the toxicity and degradability of substances that may be used in chemical 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 raw material supplier shall be used.

The DID-list is available from the ecolabelling body in each country and their websites. Valid for these criteria is the DID-list dated January 2007 or later.
Appendix 3  Declaration from the manufacturer of the dishwasher detergent

Product name: ____________________________________________________________

Carcinogenic, mutagenic and reproduction toxic substances (CMR)

Does the product contain substances that carry one or a combination of the following risk phrases?

<table>
<thead>
<tr>
<th>Risk Phrase</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>R40 Possible risk of cancer / H350</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>R45 May cause cancer / H350i</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>R46 May cause heritable genetic damage / H340</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>R49 May cause cancer by inhalation / H351</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>R60 May impair fertility / H360</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>R61 May cause harm to the unborn child / H360</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>R62 Possible risk of impaired fertility / H361</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>R63 Possible risk of harm to the unborn child / H361</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>R64 May cause harm to breastfed babies / H362</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>R68 Possible risks of irreversible effects / H341</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

Allergenic substances

Does the product contain more than 0.1 wt% of any substance that carries one of the following risk phrases?

<table>
<thead>
<tr>
<th>Risk Phrase</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>R42 (May cause sensitization by inhalation) / H334</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>R43 (May cause sensitization by skin contact) / H317</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>R42 and R43 (H334 and H317)</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

Environmentally hazardous substances

Does the product contain any substance carrying one of the following risk phrases?

<table>
<thead>
<tr>
<th>Risk Phrase</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment (common to fragrances) / H410</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>
Does the product contain any of the following substances?

<table>
<thead>
<tr>
<th>Substance</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDTA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NTA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DTPA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perborates</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reactive chlorine compounds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>APEO</td>
<td></td>
<td></td>
</tr>
<tr>
<td>APD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LAS</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Are the colorant approved for use in foodstuffs or non-bioaccumulating (logKow < 3.0 or BCF < 100)?

☑️ Specify the E-number (number designated on approval of foodstuff status), alternatively the logKow value (octanol-water partition coefficients) or BCF value (bioconcentration factor).

IFRA

Has the fragrance been added in accordance with IFRA guidelines. International Fragrance Association (IFRA) guidelines can be found on www.ifraorg.org/guidelines.asp.

Yes | No

O20 Plastic packaging

Does the packaging (including label) contain PVC or other halogenated plastic?

Yes | No

<table>
<thead>
<tr>
<th>Date</th>
<th>Company name</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Signature (person responsible)</th>
<th>Clarification of signature</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix 4 Declaration from the raw material supplier

Name of ingredient: ____________________________________________

Carcinogenic, mutagenic and reproduction toxic substances (CMR)
Does the product contain substances that carry one or a combination of the following risk phrases?

<table>
<thead>
<tr>
<th>Risk Phrase</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>R40 Possible risk of cancer / H350</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R45 May cause cancer / H350i</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R46 May cause heritable genetic damage / H340</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R49 May cause cancer by inhalation / H351</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R60 May impair fertility / H360</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R61 May cause harm to the unborn child / H360</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R62 Possible risk of impaired fertility / H361</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R63 Possible risk of harm to the unborn child / H361</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R64 May cause harm to breastfed babies / H362</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R68 Possible risks of irreversible effects / H341</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Allergenic substances
Does the ingredient contain any substances carrying one of the following risk phrases?

<table>
<thead>
<tr>
<th>Risk Phrase</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>R42 (May cause sensitization by inhalation) / H334</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R43 (May cause sensitization by skin contact) / H317</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R42 and R43 (H334 and H317)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Environmentally hazardous substances
Does the product contain any substance carrying one of the following risk phrases?

<table>
<thead>
<tr>
<th>Risk Phrase</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment (common to fragrances) / H410</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Does the product contain any of the following substances?

- EDTA
- NTA
- DTPA
- Perborates
- Reactive chlorine compounds
- APEO
- APD
- LAS

Yes ☐ No ☐

Yes ☐ No ☐

Yes ☐ No ☐

Yes ☐ No ☐

Yes ☐ No ☐

Yes ☐ No ☐

Yes ☐ No ☐

Yes ☐ No ☐

Yes ☐ No ☐

Are the colorant approved for use in foodstuffs or non-bioaccumulating (logKow < 3.0 or BCF < 100)?

Specify the E-number (number designated on approval of foodstuff status), alternatively the logKow value (octanol-water partition coefficients) or BCF value (bioconcentration factor).

Date ___________________________ Company name ___________________________

Signature (person responsible) ___________________________ Clarification of signature ___________________________
Appendix 5 Declaration from the fragrance manufacturer

Fragrance name: ____________________________________________________________

Name of fragrance supplier: ________________________________________________

IFRA
Has the fragrance been produced in accordance with IFRA guidelines? Yes ☐ No ☐
International Fragrance Association (IFRA) guidelines can be found on www.ifra.org/guidelines.asp.

Carcinogenic, mutagenic and reproduction toxic substances (CMR)
Does the product contain substances that carry one or a combination of the following risk phrases?

<table>
<thead>
<tr>
<th>Risk Phrase</th>
<th>Yes ☐ No ☐</th>
</tr>
</thead>
<tbody>
<tr>
<td>R40 Possible risk of cancer / H350</td>
<td>Yes ☐ No ☐</td>
</tr>
<tr>
<td>R45 May cause cancer / H350i</td>
<td>Yes ☐ No ☐</td>
</tr>
<tr>
<td>R46 May cause heritable genetic damage / H340</td>
<td>Yes ☐ No ☐</td>
</tr>
<tr>
<td>R49 May cause cancer by inhalation / H351</td>
<td>Yes ☐ No ☐</td>
</tr>
<tr>
<td>R60 May impair fertility / H360</td>
<td>Yes ☐ No ☐</td>
</tr>
<tr>
<td>R61 May cause harm to the unborn child / H360</td>
<td>Yes ☐ No ☐</td>
</tr>
<tr>
<td>R62 Possible risk of impaired fertility / H361</td>
<td>Yes ☐ No ☐</td>
</tr>
<tr>
<td>R63 Possible risk of harm to the unborn child / H361</td>
<td>Yes ☐ No ☐</td>
</tr>
<tr>
<td>R64 May cause harm to breastfed babies / H362</td>
<td>Yes ☐ No ☐</td>
</tr>
<tr>
<td>R68 Possible risks of irreversible effects / H341</td>
<td>Yes ☐ No ☐</td>
</tr>
</tbody>
</table>

Musk compounds
Have any of the following substances been added?

<table>
<thead>
<tr>
<th>Substance</th>
<th>Yes ☐ No ☐</th>
</tr>
</thead>
<tbody>
<tr>
<td>Musk xylene 81-15-2</td>
<td>Yes ☐ No ☐</td>
</tr>
<tr>
<td>Musk ambrette 83-66-9</td>
<td>Yes ☐ No ☐</td>
</tr>
<tr>
<td>Moskene 116-66-5</td>
<td>Yes ☐ No ☐</td>
</tr>
<tr>
<td>Musk tibetine 145-39-1</td>
<td>Yes ☐ No ☐</td>
</tr>
<tr>
<td>Musk ketone 81-14-1</td>
<td>Yes ☐ No ☐</td>
</tr>
<tr>
<td>HHCB 114109-62-5, 114109-63-6, 1222-05-5, 78448-48-3 and 78448-49-4</td>
<td>Yes ☐ No ☐</td>
</tr>
<tr>
<td>AHTN 1506-02-1 and 21145-77-7</td>
<td>Yes ☐ No ☐</td>
</tr>
</tbody>
</table>

Allergenic substances
Does the fragrance contain more than 0.1 wt% of any substance that carries one of the following risk phrases?

<table>
<thead>
<tr>
<th>Risk Phrase</th>
<th>Yes ☐ No ☐</th>
</tr>
</thead>
<tbody>
<tr>
<td>R42 / H334 (May cause sensitization by inhalation)</td>
<td>Yes ☐ No ☐</td>
</tr>
<tr>
<td>R43 / H317 (May cause sensitization by skin contact)</td>
<td>Yes ☐ No ☐</td>
</tr>
<tr>
<td>R42 and R43 (H334 and H317)</td>
<td>Yes ☐ No ☐</td>
</tr>
</tbody>
</table>
Does the fragrance contain any of the following substances?  

If yes, specify the concentration in weight-% for detectable substances.

<table>
<thead>
<tr>
<th>Name</th>
<th>Cas No.</th>
<th>Wt% in fragrance</th>
<th>Name</th>
<th>Cas No.</th>
<th>Wt% in fragrance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amyl cinnamal</td>
<td>122-40-7</td>
<td></td>
<td>Amylcinnamyl alcohol</td>
<td>101-85-9</td>
<td></td>
</tr>
<tr>
<td>Anisyl alcohol</td>
<td>105-13-5</td>
<td></td>
<td>Benzyl alcohol</td>
<td>100-51-6</td>
<td></td>
</tr>
<tr>
<td>Benzyl benzoate</td>
<td>120-51-4</td>
<td></td>
<td>Benzyl cinnamate</td>
<td>103-41-3</td>
<td></td>
</tr>
<tr>
<td>Benzyl salicylate</td>
<td>118-58-1</td>
<td></td>
<td>Cinnamal</td>
<td>104-55-2</td>
<td></td>
</tr>
<tr>
<td>Cinnamyl alcohol</td>
<td>104-54-1</td>
<td></td>
<td>Citral</td>
<td>5392-40-5</td>
<td></td>
</tr>
<tr>
<td>Citronellol</td>
<td>106-22-9</td>
<td></td>
<td>Coumarin</td>
<td>91-64-5</td>
<td></td>
</tr>
<tr>
<td>d-Limonene</td>
<td>5989-27-5</td>
<td></td>
<td>Eugenol</td>
<td>97-53-0</td>
<td></td>
</tr>
<tr>
<td>Farnesol</td>
<td>4602-84-0</td>
<td></td>
<td>Geraniol</td>
<td>106-24-1</td>
<td></td>
</tr>
<tr>
<td>Hexyl cinnamaldehyde</td>
<td>101-86-0</td>
<td></td>
<td>Hydroxy-citronellal</td>
<td>107-75-5</td>
<td></td>
</tr>
<tr>
<td>Hydroxymethyl/phenyl</td>
<td>31906-04-4</td>
<td></td>
<td>Isoeugenol</td>
<td>97-54-1</td>
<td></td>
</tr>
<tr>
<td>cyclohexene carboxaldehyde</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-(tert-Butylbenzyl) propio-</td>
<td>80-54-6</td>
<td></td>
<td>Linalool</td>
<td>78-70-6</td>
<td></td>
</tr>
<tr>
<td>nalddehyde</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methyl heptyn carbonate</td>
<td>111-12-6</td>
<td></td>
<td>Cetone Alpha</td>
<td>127-51-5</td>
<td></td>
</tr>
<tr>
<td>Oak moss extract</td>
<td>90028-68-5</td>
<td></td>
<td>Tree moss extract</td>
<td>90028-67-4</td>
<td></td>
</tr>
</tbody>
</table>

Does the fragrance contain any other substances classified with R42 / H334 and/or R43 / H317?  

If yes, list the substances and specify the concentration in weight-% below.

__________________________________________________________________  
__________________________________________________________________  
__________________________________________________________________

Environmentally hazardous substances

Does the fragrance carry any of the following risk phrases?

R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment H410 (common to fragrances).

If yes, enclose a list of substances and their names and quantities.

Does the fragrance contain substances carrying any of the following risk phrases?

R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment / H411.

R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment / H412.

<table>
<thead>
<tr>
<th>Date</th>
<th>Company name</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Signature (person responsible)</td>
</tr>
<tr>
<td></td>
<td>Clarification of signature</td>
</tr>
</tbody>
</table>

Nordic Ecolabelling of Dishwasher detergent 5.3
Appendix 6 Additional performance test instructions

If performance is tested according to standard EN 50242 (1998 or later version) on electric dishwashers for household use, the following modifications shall be made:

1. Tests shall be performed at 55°C ± 2°C, with a cold prewash without detergent. If the product is to be awarded points under P7, the product must be tested at 50°C ± 2°C. However, the reference detergent shall still be run at 55°C ± 2°C.

2. The machine used for testing shall be a 12 place setting machine with 3.35-3.75 wash rating and connected to a cold-water supply.

3. The machine’s drying program shall be used but only the cleanliness of the dishes assessed.

4. A mildly acidic rinsing agent according to the standard (formulation III) shall be used.

5. The rinsing agent setting shall be set to 2 or 3.

6. The manufacturer’s recommended dosage shall be used during testing.

7. Three trials shall be performed at the water hardness stated in the standard. One trial shall comprise five wash cycles with the results assessed after the fifth cycle without cleaning between cycles.

The results must be equal or better than the reference detergent after the fifth wash cycle.

For a recipe for the reference detergent (Detergent B IEC 436)* and rinsing agent (formulation III), refer to Annex B to standard EN 50242:1998.

*Surfactants shall be stored in watertight containers not larger than 1 kg and used within three months.
Appendix 7  Reference Detergent, Pass/Fail-level (IKW-test)

1. Reference Detergent

The IEC Reference Detergent Type B is the reference detergent for the IKW Performance test. The composition of the reference detergent is described below.

<table>
<thead>
<tr>
<th>INGREDIENTS (IEC 436, Type B)</th>
<th>wt. %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium-tripolyphosphate (STPP)</td>
<td>0</td>
</tr>
<tr>
<td>Tri-sodium-citrate-dihydrate</td>
<td>30.0</td>
</tr>
<tr>
<td>Sodium-carbonate</td>
<td>29.0</td>
</tr>
<tr>
<td>sodium perborate monohydrate</td>
<td>5.0</td>
</tr>
<tr>
<td>Tetraacetyethylendiamine</td>
<td>2.0</td>
</tr>
<tr>
<td>Sodium-disilicate</td>
<td>25.0</td>
</tr>
<tr>
<td>Nonionic surfactant (low foaming)</td>
<td>2.0</td>
</tr>
<tr>
<td>Maleic acid/acrylic acid copolymer Na-salt</td>
<td>6.0</td>
</tr>
<tr>
<td>Protease</td>
<td>0.5</td>
</tr>
<tr>
<td>Amylase</td>
<td>0.5</td>
</tr>
<tr>
<td>Sodium-dichloroisocyanurate</td>
<td>0</td>
</tr>
<tr>
<td>Sodium-metasilicate</td>
<td>0</td>
</tr>
<tr>
<td>Sodium-metasilicate-pentahydrate</td>
<td>0</td>
</tr>
<tr>
<td><strong>TOTAL WEIGHT</strong></td>
<td>100</td>
</tr>
</tbody>
</table>

The reference detergent may be obtained from:

wfk Testgewebe GmbH
Christenfeld 10
Brueggen-Bracht
Germany
e-mail: info@testgewebe GmbH
phone. +49-2157 871977
fax: +49-2157 90657

2. Pass/Fail-level

The detergent under test should comply with the following requirements:

For each of the four soil classes of the IKW Test Method (bleachable, persistent/burnt, dried/starch containing, dried/protein containing), the performance of the tested detergent has at least to be as good as the reference detergent.

- Tested detergent pass performance test if:
  the performance in all four soil classes is > reference detergent

- Tested detergent fail performance test if:
  the performance in one or more soil classes is < reference detergent

Nordic Ecolabelling of Dishwasher detergent 5.3
Appendix 8  Example framework test

The applicant’s tests shall follow EN 50242 (1998 or later edition) or IKW. There are a total of 8 types of soiling divided into four categories. At least one type of soiling must be selected from each category.

Bleachable stains
- Tea

Persistent, burnt soil
- Minced meat on glass dishes
- Milk in the microwave

Amylase-specific soil
- Starch mix
- Porridge

Protease-specific soil
- Egg yolk
- Minced meat on porcelain plates
- Egg/milk

EN50242 and the IKW test evaluate results in different ways:

The IKW test requires that the tested product is better than the reference detergent in all four categories.

EN 50242 requires that the aggregate result of the tested product is better than the reference detergent.

The table below illustrates how evaluation shall be performed. The method depends on how many types of soiling are used and the number of washing cycles.

<table>
<thead>
<tr>
<th>Type of soil</th>
<th>Wash cycles</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>3</td>
<td>Average</td>
</tr>
<tr>
<td>All</td>
<td>5</td>
<td>Average</td>
</tr>
<tr>
<td>One from each category</td>
<td>3</td>
<td>Best in each category</td>
</tr>
<tr>
<td>One from each category</td>
<td>5</td>
<td>Average</td>
</tr>
</tbody>
</table>