

Swan labelling of  
**Laundry detergents for professional use**  
**Consultative proposal • 16 March 2009**



**Nordic Ecolabelling**

The Nordic Council of Ministers decided in 1989 to introduce a voluntary official ecolabelling scheme, the Nordic Ecolabel system. The organisations/enterprises below implement the Nordic Ecolabelling system on behalf of the governments of the respective countries.

For more information, see the websites:

**Finland:**

SFS Miljömärkning  
Pb 116  
FI-00241 HELSINKI  
Tel: +358 9 1499 331  
Fax: +358 9 1499 3320  
[www.ecolabel.fi](http://www.ecolabel.fi)  
[joutsen@sfs.fi](mailto:joutsen@sfs.fi)

**Denmark:**

Miljømærkning Danmark  
Dansk Standard  
Kollegievej 6  
DK-2920 CHARLOTTENLUND  
Tel: +45 72 300 450  
Fax: +45 72 300 451  
[www.ecolabel.dk](http://www.ecolabel.dk)  
[info@ecolabel.dk](mailto:info@ecolabel.dk)

**Norway:**

Miljømerking  
Tordenskiolds gate 6 B  
NO-0160 OSLO  
Tel: +47 24 14 46 00  
Fax: +47 24 14 46 01  
[www.ecolabel.no](http://www.ecolabel.no)  
[info@ecolabel.no](mailto:info@ecolabel.no)

**Iceland:**

Norræn Umhverfismerking á Íslandi  
Umhverfisstofnun  
Suðurlandsbraut 24  
IS-108 REYKJAVIK  
Tel: +354 591 20 00  
Fax: +354 591 20 20  
[www.svanurinn.is](http://www.svanurinn.is)

**Sweden:**

SIS Miljömärkning AB  
SE-118 80 STOCKHOLM  
Tel: +46 8 55 55 24 00  
Fax: +46 8 55 55 24 01  
[www.ecolabel.se](http://www.ecolabel.se)  
[svanen@ecolabel.se](mailto:svanen@ecolabel.se)

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# Swan labelling of Laundry detergents for professional use

Version 093/Consultative proposal, 16 March, 2009

<b>What is a Swan-labelled laundry detergent for professional use? .....</b>	<b>1</b>
<b>Why choose Swan labelling? .....</b>	<b>1</b>
<b>What can be Swan labelled? .....</b>	<b>2</b>
<b>How to apply .....</b>	<b>2</b>
<b>What is required to qualify for a Swan label? .....</b>	<b>3</b>
<b>1 Environmental requirements .....</b>	<b>3</b>
1.1 General requirements (applies to all products and all sub-components in a multi-component system).....	4
1.2 Total content of laundering chemicals .....	8
1.3 Functionality of the detergent .....	12
1.4 Effectiveness of the detergent .....	13
1.5 Customer visits .....	14
<b>2 Other requirements.....</b>	<b>14</b>
2.1 Quality and regulatory requirements .....	14
<b>Marketing .....</b>	<b>16</b>
<b>Design of the Nordic Ecolabel .....</b>	<b>16</b>
<b>Sales in the rest of the Nordic region .....</b>	<b>17</b>
<b>Follow-up inspections .....</b>	<b>17</b>
<b>How long is a licence valid?.....</b>	<b>17</b>

## Appendixes

- Appendix 1 The detergent manufacturer's/supplier's declaration concerning the product's content of banned substances
- Appendix 2 The manufacturer's/supplier's declaration concerning raw material content
- Appendix 3 Parameters and formulae needed to document the total content of detergents in accordance with Section 1.2
- Appendix 4 Analysis and test laboratories
- Appendix 5 Requirements concerning the user test
- Appendix 6 Marketing of Swan-labelled laundry detergents for professional use
- Appendix 7 Translation key for GHS (Globally Harmonised System)

## **What is a Swan-labelled laundry detergent for professional use?**

A Swan-labelled laundry detergent for professional use or multi-component system is one of the least environmentally harmful options available. The laundry detergent meets stringent requirements laid down concerning the environmental and health characteristics of the constituent substances and in terms of product quality and effectiveness. Swan-labelled detergents

- have a limited content of substances that are harmful to the environment and health,
- contain substances that are readily degradable in nature,
- are at least as effective as similar products with the same function,
- have an optimal dosage that is guaranteed with regular customer visits
- have environmentally adapted packaging.

After use, and after the waste water has been treated, all detergents end up in nature. It is therefore important that all ingredients are readily biodegradable. They must not be bioaccumulating and toxic so that they cannot disturb the ecosystem.

A number of fragrances are allergenic and environmentally harmful. Certain preservatives may also induce allergies and accumulate in the environment while others are less harmful. For this reason the Swan Label imposes requirements under which fragrance is excluded and preservatives are restricted.

An important requirement for Swan-labelled laundry detergents for professional use is that they must function at least as well as equivalent, well tested products. By comparison, they must produce excellent results at the recommended dosage. This is checked at regular customer visits, saving both money and the environment.

## **Why choose Swan labelling?**

- An enterprise that manufactures laundry detergents for professional use may use the Swan label trade mark in its marketing. The Nordic Ecolabel, known as the “Swan” in the Nordic countries, is a very well-known and well-reputed trademark in the Nordic region.
- The Swan label is a cost-effective and simple way of communicating environmental work and commitment to customers and suppliers.
- A more environmentally adapted activity often yields scope for reduced costs by, for example, reducing the consumption of environmentally harmful chemicals, energy and water and reducing the quantity of waste.
- Environmental issues are complex. It can take a long time and extensive resources to gain an understanding of a specific area. Swan labelling can be seen as aid in this work.

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

## What can be Swan labelled?

The phrase ‘laundry detergents for professional use’ mean products intended for laundering textiles in water by professional users like institutional/industrial users and other large-scale consumers.

The product group covers complete powders and complete liquid detergents as well as a multi-component system. Softeners, rinsing agents and stain removers can also be Swan labelled if they are included in a multi-component system.

A multi-component system is a detergent systems based on components used to build up a complete detergent, a stock solution or a laundering programme for automatic dosing. This system may incorporate a number of products such as pre-wash agents, basic detergents, washing strengtheners, bleaching agents, rinsing agents and special detergents for laundering delicates.

The criteria do not cover special impregnating agents with a water-repelling or flame retarding function.

Products that are intended entirely or partly for consumers or that are sold entirely or partially in convenience stores, cannot be Swan-labelled under these criteria These are covered by the criteria document Ecolabelling of laundry detergents and stain removers, 006/version 6.0, or later.

## How to apply

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

Icons in the text

The text describes how the applicant shall demonstrate fulfilment of each requirement. There are also icons in the text to make this clearer. These icons are:

☒      Enclose

☺      The requirement checked on site

### Application

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

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

### **On-site inspection**

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

### **Costs**

An application fee is charged to companies applying for a licence. There is an additional annual fee based on the turnover of the Swan-labelled product.

### **Enquiries**

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

## **What is required to qualify for a Swan label?**

To be granted the Swan label, all requirements must be met. In the case of multi-component systems, every component must meet the Swan label requirements for constituent chemicals (Section 1.1). Furthermore, the total chemical content of the system must meet requirements laid down concerning the total quantity of chemicals (Section 1.2)

A Swan-labelled multi-component system must as a minimum comprise the components needed for the multi-component system to launder properly in order to meet the effectiveness requirement.

## **1 Environmental requirements**

The environmental requirements are divided into two parts: Chapter 1.1 contains general requirements which must be fulfilled by all products and all sub-components in a multi-component system.

Section 1.2 contains the requirements that apply to the total quantity in a complete detergent or in multi-component systems.

Unless otherwise specified, the requirements in Section 1 apply to all constituent substances.

The term constituent substance refers to all substances in the laundry detergent for professional use, 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). Substances added to an ingredient deliberately or for a purpose are not considered impurities, irrespective of concentration

The requirements in Sections 1.1 and 1.2 are based on the recommended dosage quoted in grams of detergent/kg of articles for washing and vary according to the level of soiling of the wash.

## **1.1 General requirements (applies to all products and all sub-components in a multi-component system)**

### **R1 Description of the product**

The applicant must provide detailed information on products that are to be Nordic Ecolabelled, including the following details:

- the name of the enterprise and address
- technical description of products

Description in accordance with the above.

### **R2 Formulation**

Nordic Ecolabelling must be notified of the complete formulation of the product.

The complete formulation must set out the trade name, the chemical name, the quantity, the CAS number and DID number for each ingredient. The water content of ingredients and the function of each raw material must be specified.

*The DID number is the number of the ingredient on the DID list that is to be used when determining chemical requirements. The DID list is available from Nordic Ecolabelling, see addresses on page 2*

Complete formulation and safety data sheet/product data sheet for each ingredient in accordance with Directive 2001/58/EC.

### R3 Classification of product

The product must not be classified under the hazard classes and risk phrases specified in Table 1.

**Table 1. Proscribed hazard classes/risk phrases for laundry detergents**

<b>Classification</b>	<b>Hazard class and risk phrase</b>
Ecotoxic	N with R50, R50/53 or R51/53. R52, R53 or R52/53 without N.
Acute toxicity	T+ with R26, R27, R28 and/or R39
Toxic	T with R23, R24, R25, R39 and/r R48
Harmful to health *	Xn with R20, R21, R48, R65 and/or R68
Allergenic	Xn with R42 and/or Xi with R43
Carcinogenic	T with R45 and/or R49 (Carc1 or Carc2) or Xn with R40 (Carc3)
Mutagenic	T with R46 (Mut1 or Mut2) or Xn with R68 (Mut3)
Toxic for reproduction	T with R60, R61, R64 and/or R33 (Rep1 or Rep2) or Xn with R62, R63, R64 and/or R33 (Rep3)

\* An exemption applies to products where the classification is the result of the content of oxalic acid (CAS 144-62-7) or paracetic acid (CAS 79-21-0).

The classification applies in accordance with Directive 67/548/EEG and 1999/45/EU as amended.

With the transition to GHS (Globally Harmonised System) the requirements applicable to classification of the product may be converted in accordance with the table in Appendix 7.

Please note that classification is the responsibility of the manufacturer.

Product safety data sheets/product sheets in accordance with Directive 2001/58/EU.

#### **R4 Classification of ingoing substances**

Ingoing substances in laundry chemicals must not be classified in accordance with the hazard classes and risk phrases in Table 2.

**Table 2. Proscribed classifications of ingoing substances in laundry chemicals**

<b>Classification</b>	<b>Hazard class and risk phrase</b>
Allergenic*	Xn with R42 and/or Xi with R43
Carcinogenic	T with R45 and/or R49 (Carc1 or Carc2) or Xn with R40 (Carc3)
Mutagenic	T with R46 (Mut1 or Mut2) or Xn with R68 (Mut3)
Toxic for reproduction	T with R60, R61, R64 and/or R33 (Rep1 or Rep2) or Xn with R62, R63, R64 and/or R33 (Rep3)

*\*Enzymes and preservatives are exempted from this requirement. See separate requirements applicable to these components.*

- Product safety datasheet/product datasheet for all ingoing substances (in all laundry chemicals in accordance with Directive 2001/58/EU).
- Duly completed and signed declaration from manufacturer (Appendix 1).
- Duly completed and signed declaration from raw material supplier (Appendix ).

#### **R5 Surfactants, ready degradability aerobically and anaerobically**

All surfactants must be readily degradable aerobically in accordance with test method No. 301 A - F in OECD guidelines for testing of chemicals or other equivalent test methods.

All surfactants must be degradable anaerobically, which means at least 60% degradability under anaerobic conditions in accordance with ISO 11734, ECETOC No. 28 or equivalent test methods.

Documentation must primarily refer to the DID dated 2007 or later. In the case of surfactants not included on the list other documentation may be used, e.g. test reports or references in the literature.

DID: Detergents Ingredients Database.Link:

[http://ec.europa.eu/environment/ecolabel/pdf/did\\_list/didlist\\_part\\_a\\_da.pdf](http://ec.europa.eu/environment/ecolabel/pdf/did_list/didlist_part_a_da.pdf)

- Documentation that primarily refers to the DID dated January 2007 or later. In the case of surfactants not included on the list, other documentation may be used, e.g. test reports or references to the literature (Appendix 3).

#### **R6 Enzymes**

Enzymes must be liquid or take the form of non-dusting granules.

- Declaration from the manufacturer or notification on safety data sheet/product data sheet.

**R7 Enzymes, working environment**

Producers of laundry detergents shall implement the protective measures to prevent the workers from exposing to enzymes. Especially the protection towards peak exposures shall be in place.

- Description of applied protection measures and personal protection equipments

**R8 Substances that must not be present in the product**

The product must not contain the following compounds:

Reactive chlorine compounds, for example sodium hypochlorite or organic chlorine compounds

Alkylphenol ethoxylates (APEO) and/or alkylphenol derivatives (APD)

LAS (linear alkyl benzene sulphonates)

DADMAC (dialkyldimethyl ammoniumchloride)

PFAS (per- and polyfluorinated alkylated compounds)

Boric acid and borates

Optical brightener

NTA

Fragrance

Triclosan

EDTA

PBT (persistent, bioaccumulative and toxic substances – Annex XIII of REACH (Directive 1907/2006/EC))

vPvB (very persistent and very bioaccumulative - Annex XIII of REACH (Directive 1907/2006/EC))

Substances on the European Union's list of 118 substances documented to cause endocrine disruption or potential endocrine disruption:

<http://www.mst.dk/Kemikalier/Fokus+paa+saerlige+stoffer/Hormonforstyrrende+stoffer/EUs+liste+over+hormonforstyrrende+stoffer/> (Updated 21 May 2007 or as amended)

Halogenated flame retardants

Nanoparticles comprising metal, carbon or fluorine compounds

- Duly completed and signed declaration from manufacturer (Appendix 1)

- Duly completed and signed declaration from raw material supplier (Appendix 2)

**R9 Preservatives**

Preservatives may be added in liquid products if the preservatives are not bioaccumulable. The substance is considered not to be bioaccumulable if  $BCF < 100$  or  $\log K_{ow} < 3.0$ . Where there is information on both BCF and  $\log K_{ow}$ , values for BCF must be used.

- Documentation for BCF or  $\log K_{ow}$ .

## **R10 Dyes**

Dyes must either be approved for use in foodstuffs or not be bioaccumulative. Dyes are not deemed to be bioaccumulative if  $BCF < 100$  or  $\log K_{ow} < 3$ . If both values are available, the BCF value actually measured will be decisive.

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

## **Packaging**

### **R11 Labelling of plastic packaging**

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

- Documentation that certify that the requirement is met.

### **R12 Plastic packaging**

PVC or other halogenated plastics must not be incorporated in either the packaging or the labelling.

- Certificate showing that PVC or other chlorinated plastics are not present in the packaging or the labelling.

## **Dosage instructions**

### **R13 Contents declaration**

The contents declaration must conform to the instructions given in Regulation No 648/2004/EC on detergents.

- Material safety data sheet (MSDS) or technical product data sheet or sample of packaging or labelling

### **R14 Mandatory information**

The recommended dosage for one kg of articles to be washed for different levels of soiling and for different water hardness must be given in ml or g per 1 kg laundry on the label or in a technical product data sheet. It must be clear for what type of wash the dosage is recommended.

Dosage shall be given for different water hardness must be quoted for soft, middle hard and hard water. Water hardness must be indicated in the ranges relevant for areas in which the product is sold.

- Technical product data sheet or copy of labelling.

## **1.2 Total content of laundering chemicals**

The following requirements apply to all complete detergents or the total quantity (grams) of laundering chemicals in a multi-component system used to wash 1 kg laundry (g/kg laundry). All subproducts to be Swan-labelled must be included in calculations. The calculations shall be based on the highest recommended dosage.

Note that complete detergents and all products included in a multi-component system must also meet all the requirements in Section 1.1.

Dosage and limit values are dependent on the levels of soiling of the laundry. All limit values exclude water.

Table 3 describes a common distribution of laundering textile groups according to levels of soiling.

**Table 3. Examples of distribution of laundering textile groups according to levels of soiling**

<b>Light</b>	<b>Medium</b>	<b>Heavy</b>
<u>Hotel</u> <u>Bedclothes and towelling</u> from hotels and other overnight accomodation  <u>Comforters and pillows</u>  <u>Mats and mops</u>  <u>Cloth hand towel rolls</u>	<u>Work clothes</u> institutions/retail/service  <u>Restaurants</u> Table cloths, napkins and the like for use in restaurants, industrial kitchens etc.  <u>Hospitals/nursing homes</u> Textiles from hospitals and nursing homes and similar institutions including e.g. bedclothes, contour sheets, surgical scrubs, barrier sheets and patients clothing, but excluding the workware of personnel and the category “comforters and pillows”.	<u>Work clothes</u> industrial/kitchen, butchering and equivalent use.  Kitchen textiles (clothes and towels).  <u>Industrial wiping cloths</u>

**R15 Contents of the multi-component system**

Nordic Ecolabelled multi-component systems must as a minimum comprise the agents required for the system to launder and meet the requirement for effectiveness, Section 1.3 requirements R27 - R29.

- Description of products included in multi-component system

**R16 Formulation of detergent system**

Complete formulation with recommended dosages of complete detergent or complete formulations of the washing programmes for multi-component systems must be specified for kg laundry of every level of soiling.

- ☒ The complete formulation must set out the trade name, the chemical name, total quantities, the CAS number and DID number for each ingredient. The water content of ingredients and the function of each raw material must be specified.  
*The DID number is the number of the ingredient on the DID list that is to be used when determining chemical requirements. The DID list is available from Nordic Ecolabelling, see addresses on page 2*
- ☒ Safety data sheet/product data sheet for each ingredient in accordance with Directive 2001/58/EC.

### **R17 CDV (Critical Dilution Volume)**

The critical dilution volume of the detergent or the multi-component system must not exceed the limit values set out in table 4. Acute values (CDV<sub>acute</sub>) or chronic values (CDV<sub>chronic</sub>) may be used.

Parameter	Symbol (unit)	Level of soiling of the washing		
		Light	Medium	Heavy
Critical dilution volume	CDV <sub>acute</sub> (l/kg laundry)	140 000	200 000	300 000
	CDV <sub>chronic</sub> (l/kg laundry)	70 000	100 000	150 000

As a general rule, documentation shall refer to the DID dated 2007 or later. In the case of substances not included on the DID, other documentation may be used, e.g. test reports or references to the literature.

DID: Detergents Ingredients Database.Link:

[http://ec.europa.eu/environment/ecolabel/pdf/did\\_list/didlist\\_part\\_a\\_da.pdf](http://ec.europa.eu/environment/ecolabel/pdf/did_list/didlist_part_a_da.pdf)

Calculation of CDV is defined here and below:

[http://ec.europa.eu/environment/ecolabel/pdf/did\\_list/didlist\\_part\\_b\\_da.pdf](http://ec.europa.eu/environment/ecolabel/pdf/did_list/didlist_part_b_da.pdf)

CDV is calculated using the following formulae. CDV is calculated for all substances in the individual laundry chemical and for all laundry chemicals encompassed by the requirement:

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

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

dose<sub>i</sub> = the incoming quantity of the individual substance in g/kg textile

DF<sub>i</sub> = degradation factor for substances i as shown on DID

TF<sub>acute</sub> = acute toxicity factor as shown in DID

TF<sub>chronic</sub> = chronic toxicity factor as shown in DID

Because of the degradation of the substances in the wash process, separate rules apply to two substances.

- Hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>) – not to be included in calculation of CDV.
- Peracetic acid is included in the calculation as acetic acid.

- ☒ Calculation of CDV value for a complete system or a multi-component system evidencing fulfilment of the requirement. The parameters and calculation formulae required for documenting the requirement can be found in Appendix 3. State whether values for CDV<sub>acute</sub> or CDV<sub>chronic</sub> are used

**R18 aNBO (Aerobic Non-Biodegradable Organics)**

The total quantity of substances that are not aerobically readily degradable in complete detergents or in multi-component systems must not exceed the limit values set out in table 5.

Table 5. Threshold values for non-aerobically degradable substances.

Parameter	Symbol (unit)	Level of soiling of the washing		
		Light	Medium	Heavy
Aerobic Non- Biodegradable Organics	aNBO (g/kg laundry)	0.50	0,85	1.50

- ☒ Calculations for aNBO. The parameters needed for documenting the requirement are set out in Appendix 3.

**R19 anNBO (Anaerobic Non-Biodegradable Organics)**

The total quantity of substances that are not anaerobically degradable in complete detergents or in multi-component systems must not exceed the limit values set out in table 6.

Table 6. Threshold values for non-anaerobically degradable substances.

Parameter	Symbol (unit)	Level of soiling of the washing		
		Light	Medium	Heavy
Anaerobic Non-Biodegradable Organics	anNBO (g/kg laundry)	0.50	0,85	1.50

- ☒ Calculations for anNBO. The parameters needed for documenting the requirement are set out in Appendix 3.

*Spreadsheets that can be used for calculations may be obtained from the Nordic Ecolabelling home pages.*

**R20 Phosphorus**

The total quantity of phosphates and other phosphorus compounds must not exceed the values set out in table 7 in g P/kg laundry.

Table 7. Threshold values for quantity of phosphorus.

Parameter	Symbol (unit)	Level of soiling of the washing		
		Light	Medium	Heavy
Quantity of phosphorus	P (g/kg laundry)	0.50	1.00	1,50

Laundrying chemicals containing more phosphorus than what is allowed under the Norwegian regulations must not be sold and used in Norway or areas where there are rules and bans on phosphorus in laundrying chemicals.

*Product regulations: FOR 2004-06-01 no. 922: Regulations on the restriction in use of chemicals and other products that are harmful to health and the environment. Sections: 3-9. Detergents – phosphorus content.*

- The total quantity of elementary phosphorus in complete detergents or in multi-component systems.

## **R21 Complexing agents, phosphonates/phosphonic acids**

Phosphonates/phosphonic acids may, in total, be present in quantities of no more than 0.15 g/kg of articles to be washed.

- Total quantity of phosphonates/phosphonic acids in g/kg of articles to be washed.

## **R22 Environmental harmful substances**

Substances classified as environmentally harmful may be present in limited quantities in complete textile detergents or multi-component systems in accordance with the following.

Classification: R50: Very toxic to aquatic organisms. R51: Toxic to aquatic organisms. R52: Harmful to aquatic organisms. R53: May cause long-term adverse effects in the aquatic environment.

The use of substances that are toxic to the aquatic environment and not readily degradable in the aquatic environment (substances with risk phrases R50/53, R51/53 and R52/53) is limited in accordance with the following:

Requirement:  $100 * A_{R50/53} + 10 * A_{R51/53} + A_{R52/53} \leq 1.3$  g/kg textile

At the recommended dosage:

$A_{R50/53}$  is the applied quantity of substances containing R50/53 in g per kg textile

$A_{R51/53}$  is the applied quantity of substances containing R51/53 in g per kg textile

$A_{R52/53}$  is the applied quantity of substances containing R52/53 in g per kg textile

- Overview of the content of substances classified as R50/53, R51/53 and R52/53 per kg of textile.
- Calculation evidencing fulfilment of the requirement.
- Product safety datasheets for all ingoing raw materials with an account of the environmental harmfulness of the substance (acute aquatic toxicity, degradability and/or bioaccumulative properties). See R2.

If information on the environmental harmfulness of the substance is not available, the substance will be viewed as R50/53.

# **1.3 Functionality of the detergent**

## **R23 Dosability**

The product must have good dosability in automatic dosing systems.

- Describe how the dosage will normally be performed.

**R24 Compressibility**

The product in powder form must not compress in bags during the storage period. If lumps are formed, they must be friable and readily breakable.

- Describe how compression and clumping is registered and avoided.

**R25 Solubility**

The product in powder form must be readily soluble for stock solutions.

- Confirm that products in powder form are readily soluble.

**R26 Rinsing**

The product must have good rinsing characteristics from the washing machine or dosing machine compartment.

- Confirm that the product is rinsed out readily by the washing machine/dosage unit on the dosage device.

## 1.4 Effectiveness of the detergent

The complete detergent or the multi-component system must have satisfactory effectiveness with the recommended dosage for lightly, normally or heavily soiled washing in soft or hard water. Wash-effectiveness must be demonstrated using the same dosage for the same degree of soiling used in the calculation of environmental impact in Chapter 1.2. The effectiveness of the textile detergent must be documented in accordance with R27, R28 or R29.

**R27 Effectiveness**

The primary laundering effects of the detergent such as dirt removal and stain removal capacity must be documented by the manufacturer/applicant with the aid of artificially soiled test clothes which are washed in the process.

The test must be conducted by a laboratory fulfilling the requirements in annex 4. The test must be conducted with soft and hard water. The measurements must be performed on unlaundered and laundered test clothes. Evaluation of the test results shall be made by the laboratory and it shall be clearly stated in the report.

The measurements of the secondary effects such as bleaching effect, bleaching factor, ash content, greying and fluidity increase shall be made with multi wash test clothes and analysed according to standard ISO 4312

Examples of what may be used as wash test clothes included the following:

- WFK-PCMS-55 for industrial laundering processes, consisting of 13 different small dirt patches (WFK-Cleaning Technology Research Institute, Germany)
- EMPA 102, consisting of 15 different fresh spots (Swiss EMPA-Testmaterials)
- wash clothes of DTI (Danish Technology Institute) for industrial washing processes or equivalent

Laundering effectiveness must be shown with the dosage for the same level of soiling as used in calculations.

- Report with measurement results for test clothes with evaluation of the results

**R28 Effectiveness tests according to the Nordic Ecolabel's criteria for laundry detergents and stain removers, version 6.0**

Effectiveness tests that have been used to document effectiveness in accordance with the Nordic Ecolabel criteria for detergents and stain removers, 006/6.0 or later may be used for complete detergents that resemble detergents for household use.

- ☒ Report according to the Nordic Ecolabel criteria for detergents and stain removers, 006/6.0. Alternatively, a test report in accordance with the Flower criteria can be issued (the test must be conducted in accordance with the modifications described in the criteria for laundry detergents and stain removers, 006/6.0).

**R29 User test**

The laundry detergent shall meet the requirements for the user test in accordance with Appendix 5.

Laundry effectiveness must be shown with the dosage for the same level of soiling as used in calculations.

- ☒ Report of user test in accordance with Appendix 5

## **1.5 Customer visits**

**R30 Customer visits**

Customer visits to customers who use automatic dosing systems must be incorporated as a normal routine at manufacturers/suppliers. Customer visits must be performed during the term of the licence in accordance with the supplier's routines and in accordance with agreements with the customer in question. Customer visits can also be made by third party.

In exceptional cases, customer visits may be dispensed with if the distance and method of delivery makes the visit difficult to perform from the practical point of view.

- ☒ Written description of how customer visits are normally performed. Who is responsible for the visits? How large a proportion of the customers receive visits, and how often?

## **2 Other requirements**

### **2.1 Quality and regulatory requirements**

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

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

**R31 Nordic Ecolabel licence person**

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

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

**R32 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.

**R33 Quality of the laundry detergent**

The licensee must guarantee that the quality of the production of the Nordic Ecolabelled laundry detergent 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 laundry detergent.

**R34 Planned changes**

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

- Procedures detailing how planned changes are handled.

**R35 Unplanned nonconformities**

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

- Procedures detailing how unplanned nonconformities are handled.

**R36 Traceability**

The licensee must have a traceability system for the production of the Swan-labelled product

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

**R37 Take-back system**

Relevant 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 Nordic Ecolabelled laundry detergents are marketed.

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

**R38 Legislation and regulations**

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

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

**R39 Marketing**

Marketing of the Nordic Ecolabelled Laundry detergents for professional use must comply with "Regulations for Nordic Ecolabelling" 12 December 2001 or later versions.

Appendix 6 duly completed.

## Marketing

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

The label must be positioned so that there is no doubt as to what the label refers and so that it is clear which products in the multi-component system that are ecolabelled.

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

## Design of the Nordic Ecolabel

Design of the Nordic Ecolabel:



Licence number

Every licence is given a unique licence number that is to be used together with the labelling.

For more about the design of the labelling, see "Rules for Nordic ecolabelling" 12 December 2001 or later versions.

## **Sales in the rest of the Nordic region**

If the licence is registered in another Nordic country, scope is granted to use the Nordic Ecolabel on a larger market. The following must then be submitted to Nordic Ecolabelling:

- form for sales in the rest of the Nordic region
- copy of licence
- turnover of the product in the country of registration
- documentation showing in which system for recovery the manufacturer is intended to participate
- copy of labelling and the product safety data sheet
- any marketing material for the country of registration

The registration is free of charge, but annual charges must be paid in accordance with the respective country's charging rules.

## **Follow-up inspections**

Nordic Ecolabelling may decide to check whether the product fulfils Nordic Ecolabel requirements during the licence period. This may involve a site visit, random sampling or similar test.

The licence may be revoked if it is evident that the product does not meet the requirements.

## **How long is a licence valid?**

Nordic Ecolabelling adopted version 2.0 of the criteria for "Laundry detergents for professional use" on XXX. The criteria are valid until XXX.

The ecolabel licence is valid providing the criteria are fulfilled and until the criteria expire. The validity period of the criteria may be extended or adjusted, in which case the licence is automatically extended and the licensee informed.

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

## Appendix 1

### Declaration by the textile detergent manufacturer / supplier on the contents of the product

Name of product: \_\_\_\_\_

Manufacturer/supplier: \_\_\_\_\_

Ingoing substances are defined as all substances in the laundry chemical, including additives in ingredients (e.g. preservatives and stabilisers), but not pollutants from raw material production. Pollutants are defined as traces from raw material production present in the laundry chemical in concentrations of less than 0.01%. Substances that have been added to a raw material deliberately or for a purpose are not regarded as pollutants, irrespective of concentration.

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

- Reactive chlorine compounds, e.g. sodium hypochlorite or organic chloro-compounds  
 Not present  Present
- Dyestuffs  Not present  Present
- Alkylphenol ethoxylates (APEO) and/or alkylphenol derivatives (APD)  
 Not present  Present
- LAS (linear alkyl benzene sulphonates)  Not present  Present
- DADMAC (diallodimethyl ammoniumchloride)  Not present  Present
- PFAS (per and polyfluorinated alkylated compounds)  Not present  Present
- Boric acid and borates  Not present  Present
- Optical brightener  Not present  Present
- NTA (Nitrilotriacetate)  Not present  Present
- Fragrance  Not present  Present
- Triclosan  Not present  Present
- EDTA (Ethylene diaminetetraacetic acid and its salts)  Not present  Present
- PBT (persistent, bioaccumulative and toxic substances – Annex XIII REACH (Directive 1907/2006/EU))  Not present  Present
- vPvB (very persistent and very bioaccumulative – Annex XIII REACH (Directive 1907/2006/EUF))  Not present  Present
- Substances on the European Union’s list of 118 substances documented to cause endocrine disruption or potential endocrine disruption:  
<http://www.mst.dk/Kemikalier/Fokus+paa+saerlige+stoffor/Hormonforstyrrende+stoffor/EUs+liste+over+hormonforstyrrende+stoffor/> (Updated 21 May 2007)  
 Not present  Present
- Halogenated flame retardents  Not present  Present
- Nanoparticles based on metal, carbon and/or fluorine compounds  
 Not present  Present

Signature of manufacturer/supplier

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Place and date

---

Company

---

Signature, contact person

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Repeat in block capitals

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Telephone number

## Appendix 2

### Declaration by manufacturer/supplier on the contents of raw material

Name of product: \_\_\_\_\_

Manufacturer/supplier: \_\_\_\_\_

Ingoing substances are defined as all substances in the laundry chemical, including additives in ingredients (e.g. preservatives and stabilisers), but not pollutants from raw material production. Pollutants are defined as traces from raw material production present in the laundry chemical in concentrations of less than 0.01%. Substances that have been added to a raw material deliberately or for a purpose are not regarded as pollutants, irrespective of concentration.

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

- Substances classified according to table 2 in R4  Not present  Present
- Reactive chlorine compounds, e.g. sodium hypochlorite or organic chloro-compounds  Not present  Present
  - Dyestuffs  Not present  Present
  - Alkylphenol ethoxylates (APEO) and/or alkylphenol derivatives (APD)  Not present  Present
  - LAS (linear alkyl benzene sulphonates)  Not present  Present
  - DADMAC (diallodimethyl ammoniumchloride)  Not present  Present
  - PFAS (per and polyfluorinated alkylated compounds)  Not present  Present
  - Boric acid and borates  Not present  Present
  - Optical brightener  Not present  Present
  - NTA (Nitrilotriacetate)  Not present  Present
  - Fragrance  Not present  Present
  - Triclosan  Not present  Present
  - EDTA (Ethylene diaminetetraacetic acid and its salts)  Not present  Present
  - PBT (persistent, bioaccumulative and toxic substances – Annex XIII REACH (Directive 1907/2006/EU))  Not present  Present
  - vPvB (very persistent and very bioaccumulative – Annex XIII REACH (Directive 1907/2006/EUF))  Not present  Present
  - Substances on the European Union’s list of 118 substances documented to cause endocrine disruption or potential endocrine disruption:  
<http://www.mst.dk/Kemikalier/Fokus+paa+saerlige+stoffer/Hormonforstyrrende+stoffer/EUs+liste+over+hormonforstyrrende+stoffer/> (Updated 21 May 2007)  Not present  Present
  - Halogenated flame retardents  Not present  Present
  - Nanoparticles based on metal, carbon and/or fluorine compounds  Not present  Present

Signature of manufacturer/supplier

---

Place and date

---

Company

---

Signature, contact person

---

Repeat in block capitals

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Telephone number

## Appendix 3

### Parameters and formulae needed to document the total content of detergents in accordance with Section 1.2

#### 1. Critical dilution volume

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

$$(a) \quad CDV = 1000 * \sum \text{dosage}(i) * DF(i)/TF(i)$$

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

DF(i) = Degradation factor for component i.

TF(i) = Toxicity factor for component i.

#### 1.1 Method for determining parameter values for components not on the chemicals list

The specified parameter values must as a rule be used for all components on the "Detergents Ingredients Database (version 30 June 2004 Part A)" chemicals list. An exception is made, however, for fragrances and colouring agents, where additional test results are approved (see the footnote in Part A).

The following method must be adopted for components not on the chemicals list:

#### Toxicity in aquatic environment

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

#### Acute toxicity factor (TF<sub>acute</sub>)

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

#### Safety factor

The safety factor (SF<sub>acute</sub>) depends on how many trophic levels are tested and whether or not there are test results for chronic toxicity. The acute safety factor (SF<sub>acute</sub>) and acute toxicity factor (TF<sub>acute</sub>) are determined as follows:

<b>Data</b>	<b>Safety factor (SF<sub>acute</sub>)</b>	<b>Toxicity factor (TF<sub>acute</sub>)</b>
A short-term LC50 (or LE50)	10 000	Toxicity/10 000
Two short-term LC50 (or LE50) from species representing two trophic levels (fish and/or crustaceans and/or algae)	5 000	Toxicity/5 000
At least one short-term LC50 (or LE50) from each of the three trophic levels in the basic stock	1 000	Toxicity/1 000
A long-term NOEC (fish or crustaceans)	100	Toxicity/100
Two long-term NOEC from species representing two trophic levels (fish and/or crustaceans and/or algae)	50	Toxicity/50
Long-term NOEC from at least three species (usually fish, crustaceans and algae) representing three trophic levels	10	Toxicity/10

The basic stock for testing the toxicity of substances for aquatic organisms consists of acute tests on fish, daphnids and algae.

### Degradation factor

The degradation factor is defined as follows:

**Table 1. Degradation factor (DF)**

	<b>DF</b>
Readily biodegradable (*)	0.05
Readily biodegradable (**)	0.15
Potentially degradable	0.5
Persistent (Long-lived)	1

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

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

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

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

### 2. Aerobic non-biodegradable organics, aNBO

Aerobic non-biodegradable organics, aNBO, are organic substances that do not meet the criteria for readily degradability. The value for aNBO is quoted as the total quantity of non-readily degradable substances per kg of articles to be washed.

On the chemicals list (the DID list), the substances have been classified in one of the following classes:

Category	Code
Readily biodegradable	R
Potentially biodegradable, but not readily biodegradable	I
Persistent (long-lived)	P
Not tested for biodegradability under aerobic conditions	O

Organics with a classification of I and P or O are classed as aNBO unless the result of degradation tests for untested substances is substantiated.

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

Classification	Test method	BOD or CO <sub>2</sub>	DOC
Readily degradable	301 A-F	≥ 60%	≥ 70%
Potentially degradable	302 A-C		≥ 70%

*BOD (Biological oxygen demand)*

*DOC (Chemical oxygen demand)*

### 3. Anaerobic non-degradable organics, anNBO

Anaerobic non-degradable organics, anNBO, are organic compounds that are not degraded under oxygen-deficient conditions. The value, anNBO, is quoted as the total quantity of anaerobic non-degradable organics in g/kg of articles to be washed.

On the DID list, substances have been classified in one of the following classes:

Category	Code
Non-biodegradable under anaerobic conditions, i.e. tested and found not to be degradable	N
Biodegradable under anaerobic conditions, i.e. tested and found to be degradable or untested: degradability established via analogy comparisons, etc.	Y
Not tested for biodegradability under anaerobic conditions	0

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

If the substance is not on the DID list, anaerobic breakdown of the substance must be documented. All substances that are not anaerobically degradable pursuant to ISO 11734, ECETOC no. 28 June 1988 or another scientifically accepted method are classed as anNBO. The requirement is a minimum of 60% degradability under anaerobic conditions.

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

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

2. Readily degradable and has high desorption ( $D > 75\%$ ) or
3. Readily degradable and non-bioaccumulating.

Testing for adsorption/desorption may be conducted in accordance with OECD guidelines 106.

## **Appendix 4**

### **Analysis and test laboratories**

#### **Requirements concerning the analysis laboratory**

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

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

- the authorities monitor the sampling and analysis process, or
- the manufacturer has a quality system incorporating testing and analyses and which is certified in accordance with ISO 9001 or ISO 9002, or
- the manufacturer can show that there is conformity between a first-time test conducted as a parallel test between an impartial test institution and the manufacturer's own laboratory and that the manufacturer takes samples in accordance with a prescribed sampling plan.

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

- It must be possible for ecolabelling organisations to monitor the performance of testing
- The ecolabelling organisation must have access to all data on the product
- The samples must be de-identified for the test laboratory
- Performance of the effectiveness test must be described in the quality control system.

## **Appendix 5**

### **Requirements concerning the User test**

1. Responses must be obtained from at least 5 test centres representing a random selection of customers.
2. The procedure and dosage must conform to the manufacturer's recommendations.
3. The test period must continue for at least 4 weeks.
4. Every test centre must assess the serviceability of the product or multi-component system, dosability, compressibility, rinsing and solubility
5. Every test centre must assess the effectiveness of the product or multi-component system by answering questions relating to the following aspects (or similar formulations):
  - Ability to launder lightly, moderately or heavily soiled articles to be washed
  - An assessment of primary laundering effects such as dirt removal, stain removal capacity and bleaching effect must be rated
  - Assessment of secondary laundering effects such as greying of white washing and colour-fastness and staining of coloured washing
  - Assessment of the effect of the rinsing agent on drying, ironing or mangling of the articles to be washed
  - How satisfied the test subject is with customer visiting arrangements
6. The response must be rated on a scale comprising at least 3 levels, for example, "insufficiently effective", "sufficiently effective" or "very effective". With regard to how satisfied the test centre is with visit reporting arrangements, the categories must be "not satisfied", "satisfied" and "very satisfied".
7. At least 5 test centres must submit responses. At least 80% must rate the product as sufficiently effective or very effective on all points (see point 4) and be satisfied or very satisfied with customer visiting arrangements.
8. All raw data from the test must be specified.
9. The test procedure must be described in detail.

## Appendix 6

### Marketing of Swan-labelled Laundry detergents for professional use

We hereby certify that we are well acquainted with the regulations governing the use of the Swan label, as detailed in "Regulations for Nordic Ecolabelling" 12 December 2001 or later versions. We agree to follow these regulations when marketing the Swan-labelled Laundry detergents for professional use.

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

We undertake to advise those individuals within the company involved in marketing the Swan-labelled Laundry detergents for professional use of the criteria for the Swan labelling of Laundry detergents for professional use and "Regulations for Nordic Ecolabelling" 12 December 2001 or later versions.

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Date och place

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Company

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Signature, contact person

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Clarification of name

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Phone

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Signature, marketing director

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Clarification of name

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Phone

In case of a change in personnel, a new declaration must be submitted to Nordic Ecolabelling

## Appendix 7 Translation key for GHS (Globally Harmonised System)

*The requirement of classification in R3 follows from Directive 67/548/EEG with adaptations to REACH following Directive 2006/121/EF and 1999/45/EEG as amended. With the transition to GHS (Globally Harmonised System) the requirements applicable to the classification of products and ingoing substances in laundry chemicals may be converted in accordance with Table XX.*

Please note that the manufacturer of the textile detergents and the manufacturer of ingoing substances are responsible for classification.

**Table XX: Translation of K3 to GHS**

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

Nordic Ecolabelling  
Laundry detergents for professional use, 093/1.2  
Consultative proposals, 16 March, 2009