

# **The Swan labelling of Cleaning products**

**Version 4 • XX. month 200X – XX. month 200X**

Consultative document 24 April 2007



**Nordic Ecolabelling**

In 1989, the Nordic Council of Ministers decided to introduce a voluntary official ecolabel, the Swan.

These organisations/companies operate the Swan ecolabelling system on behalf of their own country's government. For more information, see the websites.

**Finland:**

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

**Danmark:**

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)

**Norge:**

Stiftelsen Miljømerking i Norge  
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)

**Island:**

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

**Sverige:**

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)

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.

# Swan-labelling of cleaning products

026/Consultative document 24 April 2007

<b>The Swan-labelling of.....</b>	<b>1</b>
<b>Cleaning products.....</b>	<b>1</b>
<b>What are Swan-labelled cleaning products? .....</b>	<b>1</b>
<b>Why choose the Swan label? .....</b>	<b>1</b>
<b>What products are eligible for a Swan label?.....</b>	<b>2</b>
<b>How to apply?.....</b>	<b>3</b>
<b>What is required for a product to be awarded a Swan label? 4</b>	
1    Environmental requirements .....	5
2    Effectiveness.....	13
3    Packaging .....	14
4    Quality requirements and the requirements of the authorities.....	16
<b>The design of the Swan label.....</b>	<b>17</b>
<b>Follow-up inspections.....</b>	<b>18</b>
<b>The duration of the licence .....</b>	<b>18</b>

## Appendices

1	The marketing of Swan-labelled cleaning products
2	Test methods for determining and documentation of environmental properties
3	Declaration by the manufacturer of the cleaning product
4	Declaration by supplier of raw materials
5	Declaration by supplier of fragrance
6	Consumer test
7	Laboratory test

## **What are Swan-labelled cleaning products?**

Swan-labelled cleaning products are amongst the least environmentally harmful products within their category, the substances they contain have the lowest impact on the environment possible, and strict requirements are imposed with regard to the chemicals used in the products.

The environmental requirements include strict requirements as to the content of environmentally harmful substances and substances not readily degradable in aquatic environments.

Account is also taken of health factors; for example the content of fragrance and other allergenic substances is restricted.

The products are discharged into water after use. Properties such as biodegradability, bioaccumuability and toxicity to aquatic organisms are accordingly key considerations with regard to all constituent components.

The effect of the products on the environment will also depend on the way in which they are used. Accordingly, the consumer must be provided with dosage information. Maximum dosage requirements apply and the required performance testing must also demonstrate that the specified dose of the product has a cleaning effect that is satisfactory.

Furthermore, packaging requirements are imposed in order to reduce the quantity of packaging used and to increase recycling and re-use.

## **Why choose the Swan label?**

- Manufacturers of laundry detergents and stain removers can use the Swan trademark in their marketing. The Swan Label enjoys considerable renown and credibility within the Nordic countries.
- The Swan Label is a cost-effective and simple way of communicating the manufacturers' environmental work and commitment to customers and suppliers.
- Environmental issues are complex and it can take time to understand specific problems. The Swan-labelling process can be used to as an aid to understanding the issues.
- Swan-labelling is not only about environmental issues, but also about quality, since these two parameters cannot be separated. This means that a Swan licence can also be viewed as a mark of quality.

## **What products are eligible for a Swan label?**

### **Areas of use**

The product group encompasses cleaning products intended for indoor, general and regular cleaning of the following areas:

- fixed surfaces (floors, walls, ceilings, doors, tiles and windows)
- kitchen equipment (for example tiles, work surfaces, kitchen machines, taps)
- sanitary installations (toilets, baths, showers, wash basins, taps)

### **The types of cleaning products to which the requirements apply**

Cleaning products may be pre-diluted or concentrates (i.e. require dilution before use). The products may be intended for use by both consumers and/or professional users. In the case of some requirements, the following categories are used:

- Consumer pre-diluted (ready for use)
- Consumer concentrate (requires dilution before use)
- Professional pre-diluted
- Professional concentrate

If a product is intended for use by both consumers and professional users, it must fulfil the strictest requirements in each area of requirements.

### **Products that do not qualify for ecolabelling as cleaning products**

Cleaning products intended for special cleaning purposes cannot be ecolabelled in accordance with these criteria. This includes products intended solely for the purpose of:

- calcium removal
- grease removal (for example scouring creams and oven cleaners)
- unblocking blockages, cleaning drains
- restricting or preventing biological growth (algae, fungus, bacteria)
- total or partial disinfection
- continuous cleaning, e.g. fragrance block for cleaning WCs
- refrigerated rooms

Wipes containing cleaning products cannot be ecolabelled as cleaning products, nor can products encompassed by related Swan-labelled criteria for hand dishwash detergents, floor care products, industrial cleaning and degreasing agents, cleaning products for the food industry, car and boat care products.

In the event of dispute, Nordic Ecolabelling will determine which criteria a product may be ecolabelled under.

## How to apply?

Each requirement is labelled with a letter R (requirement) and a number. To qualify for a licence, all requirements must be fulfilled.

### Symbols used in the text

For each requirement, a description is provided of the way in which the requirement must be documented. The following symbol is used:

Submit

### Application

Applications must be submitted to the Nordic Ecolabelling organisation in the country in which the product is manufactured or will go on sale, see the address list on page 2. An application comprises an application form and documentation showing that the requirements have been met. The documentation required is specified in the requirements.

Further information and help with application is available on the website of the individual national organisations or by contacting the national Nordic Ecolabelling secretariats.

### Sales in other Nordic countries

Registering the licence in a second Nordic country enables the Swan label to be used on a bigger market. Registration requires the submission of the following information to Nordic Ecolabelling:

- Form detailing sales in the country in question
- A copy of the licence
- A sample of a label in the language in question
- Documentation showing the recycling system that the manufacturer/importer/dealer intends to participate in.
- For registration in Norway: documentation that the quantity of phosphorous contained in the product is in compliance with the Norwegian Regulations (see R15 Phosphorous).

Registration is free of charge, but annual fees are payable in accordance with the rules in force in the individual countries.

### **Onsite checks**

Before a licence is granted, Nordic Ecolabelling will conduct an onsite check to verify that the requirements have been met.

Nordic Ecolabelling will review the application and verify the underlying information at the licence applicant's premises. During this check, the applicant must be able to present the material on which calculations have been based, the originals of submitted certificates, measurement protocols, purchasing statistics and the like in support of the requirements.

### **Costs**

A fee is charged for licence applications. In addition, an annual fee is payable when the product has been awarded a Swan label, based on sales of the Swan-labelled cleaning products.

### **Questions**

Any questions should be directed to Nordic Ecolabelling, see the address list on page 2.

## **What is required for a product to be awarded a Swan label?**

For a product to be awarded a Swan label, all requirements must be met.

# 1 Environmental requirements

Unless otherwise specified, the requirements in Chapter 1 apply to all ingoing substances.

Ingoing substances are all substances contained in the product, including additives in ingredients (e.g. preservatives and stabilisers), but not pollutants deriving from raw material production. Pollutants are traces of raw material production occurring in the product in concentrations of less than 0.01%. Substances added to a raw material deliberately or for a purpose are not counted as pollutants, irrespective of concentration.

## K1 Description of the product

Detailed information must be supplied on the cleaning products for which a Swan label is sought. The following information must be submitted:

- The name and address of the manufacturer.
- Annual sales of the products.
- A description of the products and the use of the products.
- Area of application in accordance with the section headed “What products are eligible for a Swan label?”
- The market at which the product is aimed (consumers or professional users)

Information as described above.

## K2 Formulation

The full formulation for the product must be submitted to Nordic Ecolabelling. The following information must be provided for all ingredients in the formulation:

- chemical name
- trade name
- CAS number
- DID number
- ingoing quantity including water
- quantity in the ready mixed product including water
- function
- health and environmental classifications in accordance with Directive 67/548/EEC and 1999/45/EC with subsequent amendments and adaptations

*The DID number is the number of the ingredient on the DID-list, and is used in calculating the chemical requirements. The DID-list can be found on Nordic Ecolabelling’s websites, see page 2.*

*DID-list: "Detergent Ingredient Database", see Appendix 2 for further information.*

A complete formulation in accordance with the requirement.

### K3 Classification of the product

The product must not be subject to classification as specified in the following table.

Classification	Associated hazard symbol and R phrases
Environmentally harmful	N with R50, R50/53 or R51/53. R52, R53 or R52/53 without N.
Very toxic	Tx (T+ in Norway)
Toxic	T
Harmful to health	Xn
Sensitising	Xi , (exceptions: consumer products may be R36, R37 and/or R38. Professional product may be R36, R37, R38 and/or R41).
Allergenic	Xn with R42 or Xi with R43
Carcinogenic	Carcinogenic R40, R45 and/or R49
Mutagenic	Mut R46
Reprotoxic	Rep with R60, R61, R62, R63, R64 and/or R68
Explosive	E
Extremely flammable	Fx (F+ in Norway)
Highly flammable	F
Fire hazard	No symbol

*R50: Very toxic to aquatic organisms; R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment; R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment; R52:Harmful to aquatic organisms, R53: May cause long-term adverse effects in the aquatic environment; R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment, R36: Irritating to eyes; R37:Irritating to respiratory system; R38: Irritating to skin; R41: Risk of serious damage to eyes; R42: May cause sensitisation by inhalation; R43: May cause sensitisation by skin contact; R40:Limited evidence of a carcinogenic effect; R45: May cause cancer; R49: May cause cancer by inhalation; R46: May cause heritable genetic damage; R60: May impair fertility; R61: May cause harm to the unborn child; R62: Possible risk of impaired fertility; R63:Possible risk of harm to the unborn child; R64: May cause harm to breast-fed babies; R68:Possible risk of irreversible effects.*

*The classification is as provided for in Directive 67/548/EEC and 1999/45/EC with subsequent amendments and adaptations.*

*Please note that manufacturers of raw materials/products are responsible for classification.*

- Product safety data sheets for the product in accordance with applicable Directive (2001/58/EC or later) and a sample of the label.
- Product safety data sheets for all constituent substances/raw materials in accordance with the applicable Directive (2001/58/EC or later).

**K4 CMR substances**

Substances classified as carcinogenic, mutagenic and/or toxic for reproduction with the following risk phrases must not be present in the product.

- R40 Limited evidence of a carcinogenic effect
- R45 May cause cancer
- R46 May cause heritable genetic damage
- R49 May cause cancer by inhalation
- R60 May impair fertility
- R61 May cause harm to the unborn child
- R62 Possible risk of impaired fertility
- R63 Possible risk of harm to the unborn child
- R64 May cause harm to breast-fed babies
- R68 Possible risk of irreversible effects

Completed and signed declaration, Appendix 3 (Manufacturer) and Appendix 4 (Raw Materials Supplier)

**K5 Sensitising substances**

The product must not contain substances classified as sensitising as R42 and/or R43.

Enzymes are exempted from this requirement, see in particular the enzyme requirements (R7 Enzymes)

Fragrance substances are exempted from this requirement, see in particular the requirements applicable to fragrant substances (R13-15).

Completed and signed declaration, Appendix 3 (Manufacturer) and Appendix 4 (Raw Materials Supplier).

**K6 Environmentally harmful substances**

The following requirements apply to chemical substances that fulfil the requirements for classification as environmentally harmful in accordance with regulations in force in any of the Nordic countries or the EU Substance Directive 67/548/EEC with subsequent amendments and adaptations:

Classification of substance	Requirement
R50/53 (Very toxic to aquatic organisms, may cause adverse long-term effects in the aquatic environment)	Must not occur
The total of R 51/53 (Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment) + R 52/53 (Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment)	Pre-diluted products: Maximum permitted content in the products: 0.20 gram/ liter of solution Concentrated products: Maximum permitted content in the product: 0.020 gram/ liter of solution

Full formulation in which each constituent substance/ingredient is classified. If no information is provided on the environmental harmfulness of the ingoing substance (degradability, toxicity and bioaccumuability) the substance with be counted as R40/53

- Completed and signed declaration Appendix 3 (Manufacturer) and Appendix 4 (Raw Materials Supplier).

### **K7 Enzymes**

Enzymes must be in liquid form or in the form of a granulate that does not release dust.

- Undertaking from the enzyme manufacturer or information from a product safety datasheet.

### **K8 Surfactants**

Surfactants must be aerobically readily degradable and anaerobically degradable.

- Reference to the DID-list. If the substance is not found on the DID-list, some other form of documentation of the degradability of the substance must be submitted in accordance with Appendix 2 Test methods for determining and documentation of environmental properties, Section 4 Aerobic degradability and/or Section 5 Anaerobic degradability.

### **K9 Substances that must not be present in the product**

The following constituent substances must not be present in the product or its raw materials:

- reactive chloro-compounds such as sodium hypochloride
- chloro-organic compounds (such as triclosan and kathon)
- benzalconiumchloride
- alkylphenoethoxylates (APEOs) and APEO derivatives
- alkylphenolderivatives (APD)
- quaternary ammonium compounds that are not readily degradable
- linear alkylbenzene sulphonates (LAS)
- EDTA, DTPA, NTA and phosphonates
- silver nanoparticles

- Completed and signed declaration Appendix 3 (Manufacturer) and Appendix 4 (Raw Materials Supplier).

### **K10 Preservatives**

The product must not contain bioaccumulable preservatives. Preservatives are not regarded as bioaccumulable if  $BCF < 100$  or  $\log K_{ow} < 3$ . If both values are available, the information on BCF must be submitted.

Biocides may be used only as preservatives, not as disinfectants or to provide an anti-microbial function on wash surfaces.

- Documentation of BCF or  $\log K_{ow}$ ,
- Declaration that the quantity of biocide added to the product has been added only to preserve the product or its raw materials.
- See Appendix 3 (Manufacturer) and 4 (Raw Materials Supplier).

### K11 Dyestuffs

Dyestuffs may be added to the product provided that the dyestuff in question has been approved for use in foodstuffs or is not bioaccumulable. Dyestuffs are not regarded as bioaccumulable if  $BCF < 100$  or  $\log K_{ow} < 3$ . If both values are available, the information on BCF must be submitted.

- Documentation of BCF or  $\log K_{ow}$ , or state E number. See Appendix 3 (Manufacturer) and Appendix 4 (Raw Materials Supplier).

### K12 Fragrance, IFRA

If fragrance is added to the product, the guidelines issued by the IFRA must be followed.

*The guidelines issued by the IFRA (International Fragrance Association) can be found at [www.ifraorg.org/guidelines](http://www.ifraorg.org/guidelines).*

- Declaration from the fragrance manufacturer that the fragrance has been handled in accordance with the IFRA recommendations, see Appendix 5 (Declaration by the fragrance supplier).

### K13 Fragrance, carcinogenic musk compounds

The following compounds must not be present in the product:

Moskusxylene	81-15-2
Moskusambrette	83-66-9
Moskene	116-66-5
Moskustibetin	145-39-1
Moskusketone	81-14-1
HHCB	114109-62-5, 114109-63-6, 1222-05-5, 78448-48-3 og 78448-49-4
AHTN	1506-02-1 og 21145-77-7

- Appendix 5, which must be completed and signed by the fragrance supplier.

### K14 Fragrance, restrictions/declaration

Compound	CAS No	Compound	CAS No
Amyl cinnamal	122-40-7	Amylcinnamyl alcohol	101-85-9
Anisyl alcohol	105-13-5	Benzyl alcohol	100-51-6
Benzyl benzoate	120-51-4	Benzyl cinnamate	103-41-3
Benzyl salicylate	118-58-1	Cinnamal	104-55-2
Cinnamyl alcohol	104-54-1	Citral	5392-40-5
Citronellol	106-22-9	Coumarin	91-64-5
d-limonen	5989-27-5	Eugenol	97-53-0
Farnesol	4602-84-0	Gerianol	106-24-1
Hexyl cinnamal-dehyd	101-86-0	Hydroxycitronella	107-75-5
Hydroxymethyl-phentyl cyclohex-enecarboxaldehyd (= Lyrall)	31906-04-4	Isoeugenol	97-54-1
Lilial	80-54-6	Linalool	78-70-6
Methyl heptine carbonate	111-12-6	Gamma-methylionon	127-51-5
Oak moss extract	90028-68-5	Tree moss extract	90028-67-4

Individual substances specified in the table above and/or substances classified as allergenic as R42 and/or R43 must **either**

**A)** not be present in the product in quantities in excess of 0.010 weight by percentage (100 ppm), **or**

**B)** be declared on the product label if found in the product in concentrations in excess of 0.0010 weight percentage (10 ppm).

- Appendix 5 to be completed and signed by the fragrance supplier.
- Specification from the manufacturer on the content of fragrance substances in the product in accordance with the above requirements.

*The option of declaring the fragrance substances (requirement B) instead of proscribing concentrations over a certain level (requirement A) will probably be taken out in the next revision.*

### To the consultative bodies:

We will base our conclusion on whether the declaration alternative should be retained or removed on the responses received from the consultative bodies.

#### K15 Phosphorous

This requirement encompasses the total quantity of all substances containing phosphorus calculated as P. See also the specific Norwegian provisions (regulations on restrictions in the use etc. of certain hazardous chemicals (FOR 2002-12-20, No. 1823), issued by the Ministry of Environment).

Product type	Maximum permitted quantity of phosphorous (grams/litre solution)
Pre-diluted	0.50
Concentrate	0.05

- The applicant must enclose calculations of the content of phosphorus components as P.

#### K16 Calculation of CDV<sub>acute</sub> or CDV<sub>chronic</sub>

The critical dilution volume (CDV) / litre (or kg) wash solution of the product must not exceed the maximum values specified in the following table. The calculation may be based either on CDV<sub>acute</sub> or CDV<sub>chronic</sub>.

Product type	Maximum value CDV <sub>acute</sub> /litre (kg) solution	Maximum value CDV <sub>chronic</sub> /litre (kg) solution
Pre-diluted	1 000 000	800 000
Concentrate	15 000	12 000

CDV is calculated using the formulas shown below. CDV must be calculated for all substances in the product:

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

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

dose<sub>i</sub> = the ingoing quantity of the individual substance i

$DF_i$  = degradation factor for substance  $i$  as shown on the DID-list

$TF_{acute}$  = acute toxicity factor as shown in the DID-list

$TF_{chronic}$  = chronic toxicity factor as shown in the DID-list

- Calculation of  $CDV_{acute}$  or  $CDV_{chronic}$  for the product.
- Reference to the DID-list. If the substance is not contained in the DID-list, the parameters must be calculated using the guidelines contained in part B of the DID-list and the associated documentation must be enclosed.

### **K17 Content of aNBO**

The content of substances in the product that are not readily degradable aerobically (aNBO) must not exceed the maximum values specified in the table below per litre (or kg) of wash solution. aNBO must be calculated for all substances in the product.

<b>Product type</b>	<b>Maximum value for gram aNBO/litre(kg) solution</b>
Pre-diluted	10
Concentrate	0.10

- Calculation of the aNBO for the product.
- Reference to the DID-list. If the substance is not contained in the DID-list, the parameters must be calculated using the guidelines contained in part B of the DID-list and the associated documentation must be enclosed.

### **K18 Content of anNBO**

The content of substances in the product that are not readily degradable anaerobically (anNBO) must not exceed the maximum values specified in the table below per litre (or kg) of wash solution. anNBO must be calculated for all substances in the product.

<b>Product type</b>	<b>Maximum value for anNBO/liter(kg) solution</b>
Pre-diluted, consumer	10
Concentrate, consumer	0.10
Pre-diluted, professional	50
Concentrate, professional	0.50

- Calculation of the anNBO for the product.
- Reference to the DID-list. If the substance is not contained in the DID-list, the parameters must be calculated using the guidelines contained in part B of the DID-list and the associated documentation must be enclosed.

## 2 Effectiveness

### **K19 Effectiveness**

Wash effectiveness must be tested by laboratory testing in accordance with Appendix 7 or by means of a consumer test in accordance with Appendix 6.

The product must provide a wash effectiveness that is equal to or better than a reference product within the same product category.

If the product is used by both professional users and consumers, the test requirements for professionals must be used and the comparative product must be selected from the products available for the professional market.

If a product has been tested in accordance with the Flower criteria for all-purpose cleaners and sanitary cleaning products (Commission resolution of 23 March 2005 or later versions) this consumer test or laboratory test may be approved.

Documentation of fulfilment of the requirement.

### 3 Packaging

#### K20 Packaging - plastic

To facilitate identification for the purpose of recycling, plastic parts in the primary packaging must be labelled in accordance with DIN 6120, Part 2, or some other equivalent labelling scheme. Corks, tops, and hand pumps are exempted from this requirement.

Packaging (including labels) containing PVC or plastic based on other types of chlorinated materials must not be used.

- Documentation showing that the primary packaging is labelled in accordance with DIN 6120 or some other equivalent labelling scheme.
- Product safety data sheets or confirmation from the applicant of the type of plastic used in the packaging.

#### K21 Packaging – weight/utility ratio

The weight utility ratio (gram packaging/litre solution) of the packaging is as follows:

$$WUR = \sum ((W_i + U_i) / (D_i * t))$$

where

$W_i$  = The weight of the packaging component  $i$  (primary, group or transport packaging (grams)).

$U_i$  = Weight of non-recycled material in the packaging component  $i$  (primary group or transport packaging (grams)).

$D_i$  = Number of functional doses contained in the packaging component. In the case of products that are sold pre-diluted,  $D_i$  = product volume (in litres)

$t$  = recycling figure, i.e the number of times the packaging component  $i$  is re-used plus 1

$t = 1$  if the repackaging is not re-used (disposable packaging))

$t = 10$  if the material is board

$t = 20$  if the material is plastic

Other  $t$ -values will be accepted if documented.

Upper threshold value for weight utility ratio (WUR)

Product type	Required weight/utility ratio (gram packaging/litre solution)
Cleaning products, pre-diluted	180
Requiring dilution 1-135 times	180 / dilution factor
Cleaning products requiring dilution > 135 times	1.33

*The upper threshold value applies to the total of original packaging and, if applicable, refill packaging.*

- Declaration of quantity (gram) and type of material in primary, group or transport packaging.
- Calculation of WUR in accordance with the above formula.

**K22 Packaging – recycling**

The relevant national rules, statutes and/or industry-wide agreements on recycling schemes for products and packaging must be fulfilled in the Nordic countries in which the ecolabelled product is on sale.

- Copy of the recycling agreement.

**K23 Information text**

The information text on the packaging must follow the EU's Ingredient Labelling Recommendation (89/542/EEC).

If the product requires dilution before use, the recommended dose at a normal level of soiling/normal use must be stated clearly on the packaging.

In the case of consumer products, for example, the dose may be shown as x number of ml equivalent to y capsful per z number litres of water. In the case of products intended for use by professional users, the dose may be specified as, for example, x number of ml equivalent to y strokes of the pump or number of lines on the dosing equipment per z litres of water.

The area of use of the product must also be stated clearly (see the section headed "Area of Use" in the introduction under "What products are eligible for a Swan label?").

- The applicant must submit a sample of the label and a product safety data sheet showing the wording of the information text in accordance with the requirements.

## **4 Quality requirements and the requirements of the authorities**

### **K24 Laws and regulations**

The licence holder must ensure that the applicable provisions governing safety, the working environment, environmental legislation and plant-specific conditions/licences are observed at all plants producing the Swan-labelled products and for all Swan-labelled products.

Required declaration(s)

### **K25 Responsibility for Swan Labell requirements**

There must be one person at the business with responsibility for ensuring compliance with the Swan requirements and one contact person with responsibility for liaison with Nordic Ecolabelling.

Organisational chart showing the above responsibilities.

### **K26 Documentation**

The licence holder must be able to submit a copy of the application form and the information and material (including test reports, documents from subcontractors and the like) underlying the documentation submitted in connection with the application.

The licence holder must be able to submit a copy of the application form and the information and calculation material (including test reports, documents from subcontractors and the like) for the documentation submitted in connection with the application.

Checked on site.

### **K27 The quality of the cleaning products**

The licence holder must guarantee that the quality of the Swan-labelled product will not deteriorate during the period in which the licence is in force.

Procedures for recording and, if necessary, processing, complaints/refunds concerning the quality of the Swan-labelled products.

### **K28 Planned changes**

Planned changes that impact on the Swan Label requirements must be reported in writing to Nordic Ecolabelling and approved by Nordic Ecolabelling before they are implemented.

Procedures showing how planned changes are processed.

**K29 Unforeseen deviations**

Unforeseen deviations that effect the Swan requirements must be reported in writing to Nordic Ecolabelling and recorded in the applicable journal.

- Procedures showing how planned changes are processed.

**K30 Traceability**

The licence holder must be capable of tracing the Swan-labelled products through the production process.

- Descriptions/procedures for complying with the requirement.

**K31 Recycling system**

The relevant national regulations, laws and/or industry-wide agreements on recycling systems for products and packaging must be fulfilled in the Nordic countries in which the Swan labelled products are marketed.

- Documentation of membership of existing agreements on recycling/processing.

**K32 Markedsføring**

Swan-labelled laundry detergents and stain removers must be marked in accordance with the "Rules on the Nordic Ecolabelling of products".

- Completed and signed Appendix 1.

## The design of the Swan label

The design of the Swan label is as follows:

THE SWAN LABEL



Licence number

Each licence is allotted a unique licence number which must be displayed together with the label.

Further information on the design of the ecolabel can be found in "Rules on the Nordic Ecolabelling of products".

## **Follow-up inspections**

Nordic Ecolabelling may check that the product continues to comply with the Swan requirements after a licence has been granted. This might, for example, take the form of a visit to the site or random sampling.

If the licence proves not to comply with the requirements, the licence may be withdrawn.

Random samples may also be taken from retail outlets and these may be analysed by an impartial laboratory. If the requirements are not fulfilled, Nordic Ecolabelling may require the licence holder to pay the cost of analysis.

## **The duration of the licence**

Nordic Ecolabelling adopted the criteria for cleaning products on xx. month 200x and they will remain in force up to and including xx. month 200x.

The ecolabelling licence will remain in force for as long as the criteria continue to be fulfilled, and until the criteria cease to apply. The criteria may be extended or adjusted in which case the licence will be extended automatically and the licence holder will be notified.

One year (at the latest) before the criteria cease to apply, notice will be given of the criteria that will apply after the final date of validity of the current criteria. The licence holder will then be given the opportunity to renew the licence.

## Appendix 1

### The marketing of Swan-labelled cleaning products

This is to certify that we are familiar with the regulations governing the use of the Nordic ecolabel, the Swan, as provided for in "Rules on the Nordic Ecolabelling of products", and we hereby undertake that all marketing of the Swan-labelled product will follow these rules.

This is also to certify that we are familiar with the contents of the criteria for the Swan-labelling of laundry detergents and stain removers.

We undertake to ensure that the persons within our company with responsibility for marketing the Swan-labelled products will receive information on the criteria governing the Swan-labelling of laundry detergents and stain removers and on "Rules on the Nordic ecolabelling of products" of 12 December 2001 or later versions.

_____	_____
Place and date	Company
_____	_____
Contact person	Telephone
_____	_____
Marketing manager	Telephone

In the event of personnel changes, a new declaration must be submitted to Nordic Ecolabelling.

## **Appendix 2 Test methods for determining and documentation of environmental properties**

Sampling must be performed in a competent manner. The laboratory/test institution must be impartial and competent. The unprocessed data must be available for verification by the ecolabelling organization.

The laboratory performing the analysis must fulfil the general requirements contained in standard EN 45001/DS/EN/ISO/IEC 17025, or official GLP approval laboratory (applies only to laboratories performing chemical analyses).

The applicant will be liable for cost in connection with documentation and analysis.

The manufacturer's own laboratory may be approved to perform tests and analysis if the sampling and analysis process has been certified to ISO 9001 or ISO 9002.

### **1 Ecotoxicological test methods**

International test methods (OECD Guidelines for Testing of Chemicals, ISBN 92-64-1222144) or equivalent methods must be applied for the purpose of documentation. If equivalent methods are used, these must be assessed by an independent third party to ensure that the results are also of equivalent value. The relevant test methods are specified below.

### **2 Acute aquatic toxicity**

Test methods No. 201, 202 and 203 in OECD Guidelines for Testing of Chemicals (ISBN 92-64-1222144) or other equivalent methods must be used for testing acute aquatic toxicity.

### **3 Bioaccumulation**

A component is viewed as bioaccumulative if the solubility of the substance in n-octanol is at least 1000 times greater than in water ( $\log P_{ow} > 3$ ), unless other results are shown (OECD test method 107 or 117). The bioaccumulation of such a component can be tested on fish according to test method 305 A-E. If the biological concentration factor (BCF) of the component is 100 or more, the component is regarded as bioaccumulative.

OECD test method 107 is not applicable to surface active components with both grease and water soluble properties. For such components, evidence must be presented that demonstrates to a high degree of certainty based on current knowledge that the components or their degradation products do not represent a long-term or delayed hazard to the organisms in the aquatic environment.

#### **4 Biodegradability, aerobic**

In order to determine whether a substance is readily biodegradable, test method 301 (A-F) (OECD guideline for testing of chemicals (ISBN 92-64-1222144)) must be used.

Other scientifically accepted test methods may also be used. Test results from such methods must be evaluated by an impartial body.

#### **5 Biodegradability, anaerobic**

Anaerobic degradability can be tested in accordance with ISO 11734, ECETOC No 28 (June 1988) or some other scientifically approved method. In order for a substance to be regarded as anaerobically degradable in the ISO test, a minimum of 60% degradability under anaerobic conditions is required.

Substances that are not surfactants and are not found on the DID-list, may be exempted from the anaerobic degradability requirements if they are:

- readily degradable aerobically and have low adsorption ( $A < 25\%$ ) or
- readily degradable aerobically and have high desorption ( $D > 25\%$ ) or
- readily degradable aerobically and are not potentially bioaccumuable

Adsorption/desorption is determined using method 106 in OECD Guidelines or ISO CD 18749 "Water quality – Adsorption of substances on activated sludge"

#### **6 The DID-list**

The DID-list was developed jointly by the EU ecolabelling scheme and Nordic Ecolabelling. The list was compiled in cooperation with interested parties from consumer and environmental organisations and the industry and contains information on the toxicity and degradability of a number of substances that might occur in chemical and technical products. The substances found on the DID-list do not reflect the substances found in ecolabelled products.

The DID-list cannot be used for documenting the toxicity of individual substances for the purpose of the classification rules. Information from product safety data sheets, the literature or raw material manufacturers must be used for this purpose.

For these criteria, the DID-list adopted as at January 2007 or later versions will apply.

## Appendix 3 Declaration by the manufacturer of the cleaning product

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

### R4 CMR substances

<b>Does the product contain substances classified with the following risk phrases or a combination thereof?</b>	<b>Yes</b> (Check box)	<b>No</b> (Check box)
R40 Limited evidence of a carcinogenic effect		
R45 May cause cancer		
R46 May cause heritable genetic damage		
R49 May cause cancer by inhalation		
R60 May impair fertility		
R61 May cause harm to the unborn child		
R62 Risk of impaired fertility		
R63 Possible risk of harm to the unborn child		
R64 May cause harm to breast-fed babies		
R68 Possible risk of irreversible effects		

### R5 Allergens

<b>Does the product contain substances (except enzymes and fragrance) classified with the following risk phrases?</b>	<b>Yes</b> (Check box)	<b>No</b> (Check box)
R42 May cause sensitisation by inhalation		
R43 May cause sensitisation by skin contact		
R 42 and R43		

### R6 Environmentally harmful substances

<b>Does the product contain substances classified with the following risk phrases</b>	<b>Yes</b> (Check box)	<b>No</b> (Check box)	<b>Don't know</b> (Check box)	<b>State total number of grams/litres of solution of substance categorised as "yes" and/or "don't know"</b>
R50-53 Very toxic to aquatic organisms; may cause long-term adverse effects in the aquatic environment				
R51-53 Toxic to aquatic organisms; may cause long-term adverse effects in the aquatic environment				
R52-53 Harmful to aquatic organisms; may cause long-term adverse effects in the aquatic environment				

*\* Documentation exists showing that no constituent substance is subject to classification in accordance with. R50-53, R51-53 or R52-53.*

**R9 Substances that must not be present in the product**

<b>Does the product contain any of the following substances?</b>	<b>Yes</b> (Check box)	<b>No</b> (Check box)
Reactive chloro-compounds (such as sodium hypochloride)		
Chloro-organic compounds (such as triclosan og cathon)		
Benzalconiumchloride		
Alkylphenol ethoxylates (APEOs) and derivatives of APEO		
Alkylphenol derivatives (APD)		
Quaternary ammonium compounds (non-readily degradable)		
Linear alkylbenzene sulphonates (LAS)		
EDTA		
NTA		
Phosponates		
Silver nano particles		

**R10 Preservatives**

	<b>yes</b> (Check box)	<b>No</b> (Check box)	<b>Supplementary information</b>
Have preservatives been added??			
Have preservatives been added to the product for preservation purposes only?			

State BCF or logKow value \_\_\_\_\_

**R11 Dye stuffs**

	<b>Yes</b> (Check box)	<b>No</b> (Check box)	<b>Supplementary information</b>
Does the product contain dyestuffs?			
If yes, is it approved for use in foodstuffs?			
Or: state BCF- or logKow value	-	-	

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of contact person

\_\_\_\_\_  
Company name

\_\_\_\_\_  
Repeat in block capitals

## Appendix 4 Declaration by supplier of raw materials

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

### R4 CMR substances

<b>Does the product contain substances classified with the following risk phrases or a combination thereof?</b>	<b>Yes</b> (Check box)	<b>No</b> (Check box)
R40 Limited evidence of a carcinogenic effect		
R45 May cause cancer		
R46 May cause heritable genetic damage		
R49 May cause cancer by inhalation		
R60 May impair fertility		
R61 May cause harm to the unborn child		
R62 Risk of impaired fertility		
R63 Possible risk of harm to the unborn child		
R64 May cause harm to breast-fed babies		
R68 Possible risk of irreversible effects		

### R5 Allergens

<b>Does the product contain substances (except enzymes and fragrance) classified with the following risk phrases?</b>	<b>Yes</b> (Check box)	<b>No</b> (Check box)
R42 May cause sensitisation by inhalation		
R43 May cause sensitisation by skin contact		
R 42 and R43		

### R6 Environmentally harmful substances

<b>Does the product contain substances classified with the following risk phrases</b>	<b>Yes</b> (Check box)	<b>No</b> (Check box)	<b>Don't know</b> (Check box)	<b>State total number of grams/litres of solution of substance categorised as "yes" and/or "don't know"</b>
R50-53 Very toxic to aquatic organisms; may cause long-term adverse effects in the aquatic environment				
R51-53 Toxic to aquatic organisms; may cause long-term adverse effects in the aquatic environment				
R52-53 Harmful to aquatic organisms; may cause long-term adverse effects in the aquatic environment				

\* Documentation exists showing that no constituent substance is subject to classification in accordance with. R50-53, R51-53 or R52-53.

**R9 Substances that must not be present in the product**

<b>Does the product contain any of the following substances?</b>	<b>Yes</b> (Check box)	<b>No</b> (Check box)
Reactive chloro-compounds (such as sodium hypochloride)		
Chloro organic-compounds (such as triclosan og cathon)		
Benzalconiumchloride		
Alkylphenol ethoxylates (APEOs and derivatives of APEO)		
Alkylphenol derivatives (APD)		
Quaternary ammonium compounds (non-readily degradable)		
Linear alkylbenzene sulphonates (LAS)		
EDTA		
NTA		
Phosphonates		
Silver nano particles		

**R10 Preservatives**

	<b>yes</b> (Check box)	<b>No</b> (Check box)	<b>Supplementary information</b>
Have preservatives been added??			
Have preservatives been added to the product for preservation purposes only?			

State BCF or logKow value \_\_\_\_\_

**R11 Dyestuffs**

	<b>Yes</b> (Check box)	<b>No</b> (Check box)	<b>Supplementary information</b>
Does the product contain dyestuffs?			
If yes, is it approved for use in foodstuffs?			
Or: state BCF- or logKow value	-	-	

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of contact person

\_\_\_\_\_  
Company name

\_\_\_\_\_  
Repeat in block capitals

## Appendix 5 Declaration by supplier of fragrance

Name of fragrance: \_\_\_\_\_

Name of fragrance supplier: \_\_\_\_\_

### R12 IFRA

	Yes	No
Is the fragrance handled in accordance with the IFRA (International Fragrance Association) guidelines?		

### R13 Fragrance, carcinogenic musk compounds

Does the product contain any of the following compounds?

	CAS No.	Yes (Check box)	No (Check box)
Moskusxylene	81-15-2		
Moskusambrette	83-66-9		
Moskene	116-66-5		
Moskustibetin	145-39-1		
Moskusketone	81-14-1		
HHCB	114109-62-5, 114109-63-6, 1222-05-5, 78448-48-3 and 78448-49-4		
AHTN	1506-02-1 and 21145-77-7		

### R14 Fragrance, allergenic constituent substances

Does the fragrance contain any of the following compounds? If yes, state weight percentage

Compound	CAS No.	Weight %	Compound	CAS No.	Weight %
Amyl cinnamal	122-40-7		Amylcinnamyl alcohol	101-85-9	
Anisyl alcohol	105-13-5		Benzyl alcohol	100-51-6	
Benzyl benzoate	120-51-4		Benzyl cinnamate	103-41-3	
Benzyl salicylate	118-58-1		Cinnamal	104-55-2	
Cinnamyl alcohol	104-54-1		Citral	5392-40-5	
Citronellol	106-22-9		Coumarin	91-64-5	
d-limonen	5989-27-5		Eugenol	97-53-0	
Farnesol	4602-84-0		Gerianol	106-24-1	
Hexyl cinnamal-dehyde	101-86-0		Hydroxycitronella	107-75-5	
Hydroxymethyl-phentyl cyclohex- enecarboxaldehyde (= Lyral)	31906-04-4		Isoeuenol	97-54-1	
Lilial	80-54-6		Linalool	78-70-6	
Methyl heptine carbonate	111-12-6		Gamma-methylionon	127-51-5	
Oak moss extract	90028-68-5		Wood moss extract	90028-67-4	

Does the fragrance contain other substances classified as allergens as R42 and/or R43?      Yes    No

If yes, state name and weight %: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### R4 CMR substances

Does the product contain substances classified with the following risk phrases or a combination thereof?	Yes (Check box)	No (Check box)
R40 Limited evidence of a carcinogenic effect		
R45 May cause cancer		
R46 May cause heritable genetic damage		
R49 May cause cancer by inhalation		
R60 May impair fertility		
R61 May cause harm to the unborn child		
R62 Risk of impaired fertility		
R63 Possible risk of harm to the unborn child		
R64 May cause harm to breast-fed babies		
R68 Possible risk of irreversible effects		

### R6 Environmentally harmful substances

Does the product contain substances classified with the following risk phrases	Yes (Check box)	No (Check box)	Don't know (Check box)	State total number of grams/litres of solution of substance categorised as "yes" and/or "don't know"
R50-53 Very toxic to aquatic organisms; may cause long-term adverse effects in the aquatic environment				
R51-53 Toxic to aquatic organisms; may cause long-term adverse effects in the aquatic environment				
R52-53 Harmful to aquatic organisms; may cause long-term adverse effects in the aquatic environment				

*\* Documentation exists showing that no constituent substance is subject to classification in accordance with R50-53, R51-53 or R52-53.*

### R9 Substances that must not be present in the product

Does the product contain any of the following substances?	Yes (Check box)	No (Check box)
Reactive chloro-compounds (such as sodium hypochloride)		
Chloro-organic compounds (such as triclosan og cathon)		
Benzalconiumchloride		
Alkylphenol ethoxylates (APEOs) and derivatives of APEO		
Alkylphenol derivatives (APD)		
Quaternary ammonium compounds (non-readily degradable)		
Linear alkylbenzene sulphonates (LAS)		
EDTA		
NTA		
Phosphonates		
Silver-nano particles		

### R10 Preservatives

	yes (Check box)	No (Check box)	Supplementary information
Have preservatives been added??			
Have preservatives been added to the product for preservation purposes only?			

State BCF or logKow value \_\_\_\_\_

**R11 Dyestuffs**

	<b>Yes</b> (Check box)	<b>No</b> (Check box)	<b>Supplementary information</b>
Does the product contain dyestuffs?			
If yes, is it approved for use in foodstuffs?			
Or: state BCF- or logKow value	-	-	

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of contact person

\_\_\_\_\_  
Company name

\_\_\_\_\_  
Repeat in block capitals

## **Appendix 6 Consumer Test**

This appendix describes the way in which a consumer test is to be performed. The purpose of the test is to demonstrate whether or not the test product for which a Swan licence is sought is as good as or better than a comparative product. The test must also demonstrate whether the test product harms the surfaces that it is marketed for use on.

### **Test persons:**

In the case of products intended for use by the professional market, the test must be conducted by at least five professional users.

In the case of products intended for use by the consumer market, the test must be performed by a minimum of 20 users.

If the product is aimed at both the professional market and the consumer market, the test must be performed by a minimum a five professional users.

The test users must represent a random selection of the targeted sales area. Professional test users must be drawn from five different enterprises/institutions.

### **The comparative product:**

The test product must be compared with the product normally used by the user.

The comparative product must not be the same as the test product. The test product and the comparative products may be produced by the same manufacturer.

### **Performance of the test:**

The test must be performed on the type(s) of surface relevance in relation to the recommendations on the product label.

The dose used must be the dose recommended by the manufacturer for the removal of normal stains as specified on the label.

The duration of the test period must be sufficient for the test product to be used at least five times by the test user on the same place.

### **Form for registering wash effectiveness:**

There are two questionnaires for test users: one for all-purpose cleaners/kitchen products and one for sanitary cleaners.

Each test user must complete one form per test product. The form specifies the factors that **MUST** be considered when assessing the test product. tet.

Please note that in order for the form to be approved as part of the test, **ALL** questions on the form must be completed by the test user.

A draft form is available for presenting the results of the consumer testing of wash effectiveness. The incoming answers are entered in a table which shows the number of respondents and their answers.

The **FORMULATION** of the test product on which the test is based must be attached to the overview showing the overall result of the wash effectiveness test.

### **Quality requirement:**

At least 80% of the test users must state that their overall impression of the test product is that it is better than or as good as the comparative product.

### **Documentation requirements:**

The following documentation must be submitted to Nordic Ecolabelling:

- A description of the way in which the test users were selected
- All reply forms received from the test users (please remember that all questions must be answered)
- The overall result/all replies received on the wash effectiveness of the user test specified in a table/a form
- The formulation of the test product must be attached to the overall result of the user test

## **Wash effectiveness – form for consumer testing of all-purpose cleaners and kitchen products**

One form must be completed for each test and ALL questions must be answered

### **Information about the test:**

Name of test product (= the new product): \_\_\_\_\_

Dosing of test product: \_\_\_\_\_

Name of comparative product (= the product that is normally used): \_\_\_\_\_

\_\_\_\_\_

Dosing of comparative product: \_\_\_\_\_

### **Types of surface on which the test product is used? Specify material.**

Floors: \_\_\_\_\_

Tables: \_\_\_\_\_

Fixtures/furnishings: \_\_\_\_\_

Walls: \_\_\_\_\_

Ceilings: \_\_\_\_\_

Other: \_\_\_\_\_

Test period? Start date: \_\_\_\_\_ end date: \_\_\_\_\_

How many times was the test product used on the same surface during the specified test period? \_\_\_\_\_

How long have you been using the comparative product? \_\_\_\_\_

How frequently (approximately) do you use the comparative product? \_\_\_\_\_

**Assessment of the product:**

When the test period has come to an end, the test product must be assessed in relation to the comparative product using the following form.

	<b>- worse</b> than the comparative product	<b>- as good as</b> the comparative product	<b>- better than</b> the comparative product
The ability of the test product to remove soils:			
In the case of acid products: The ability of the test product to remove calcium deposits is:			
In the case of alcalic products: The ability of the test product to prevent calcium deposits is:			
The gentleness of the test product on the surfaces on which it is used is:			
How effective do you consider the test product to be relative to the comparative product?			

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Information on the user site:**

The cleaning test and the associated assessment was performed by:

Name of enterprise: \_\_\_\_\_

Address: \_\_\_\_\_

Further description of the site at which the cleaning test was performed: \_\_\_\_\_

Contact person: \_\_\_\_\_

Telephone No. \_\_\_\_\_

In the event of questions in connection with the test, the manufacturer of the test product will be contacted.

## **Wash effectiveness – form for use in consumer testing of sanitary cleaners**

One form must be completed for each test and ALL questions must be answered

### **Information about the test:**

Name of test product (= the new product): \_\_\_\_\_

Dosing of test product: \_\_\_\_\_

Name of comparative product (= the product that is normally used): \_\_\_\_\_

\_\_\_\_\_

Dosing of comparative product: \_\_\_\_\_

### **Types of surface on which the test product is used? Specify material**

Wash basin: \_\_\_\_\_

Taps: \_\_\_\_\_

Tiles: \_\_\_\_\_

WC: \_\_\_\_\_

Floors-state type: stone, tile, terazzo, linoleum, other \_\_\_\_\_

Test period? Start date: \_\_\_\_\_ end date: \_\_\_\_\_

How many times was the test product used on the same surface during the specified test period? \_\_\_\_\_

How long have you been using the comparative product? \_\_\_\_\_

How frequently (approximately) do you use the comparative product? \_\_\_\_\_

## The overall result of the user test of wash effectiveness

Test product: \_\_\_\_\_

Description of the way in which the test users were selected

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### Table presenting all responses:

The data in the reply forms must be presented in table form, specified as percentage of total responses. Table 1 is used for all-purpose cleaners and cleaning products for kitchens, and Table 2 is used for sanitary cleaning products.

**Table 1:**

<b>All-purpose cleaners/ cleaning products for kitchens</b>	<b>- worse than the comparative product</b>	<b>- as good as the comparative product</b>	<b>- better than the comparative product</b>
The ability of the test product to remove soils:			
The gentleness of the test product on the surfaces on which it is used is:			
How effective do you consider the test product to be relative to the comparative product?			

**Tabell 2:**

<b>Sanitary cleaning products</b>	<b>- worse than the comparative product</b>	<b>- as good as the comparative product</b>	<b>- better than the comparative product</b>
The ability of the test product to remove soils that mainly consist of traces of fat and soap is:			
In the case of acid products: The ability of the test product to remove calcium deposits is:			
In the case of alkalic products: The ability of the test product to prevent calcium deposits is:			
The gentleness of the test product on the surfaces on which it was used is:			
How effective do you consider the test product to be in relation to the comparative product?			

**Assessment:**

PLEASE REMEMBER to enclose ALL responses received from test users and to attach the FORMULATION for the test product used in the test.

## **Appendix 7                      Laboratory test**

This appendix describes a proposal for a laboratory test. Other well-described and well-documented tests may also be used. If some other test than the test described below is used, the test must be approved in advance by Nordic Ecolabelling.

The purpose of the laboratory test is to determine whether the test product produces a result that is better than or as good as a reference product, and that the test product does harm the surfaces that it is marketed for use on.

### **Proposal for a laboratory test**

The test institute must fulfil these framework requirements so that the test provides a reliable result.

The product itself and the comparative product must be tested. Both products must be of the same type and intended for use in the same area, see page 1: what products are eligible for a Swan label? Testing on water must be conducted at the same time or minimum earlier. These water data must be enclosed with the other test data.

In the case of sanitary cleaning products, the ability of the product to remove both calcium and fat must be documented. The effects on fat and calcium may be determined in one and the same test.

In the case of all-purpose cleaners and cleaning products intended for use in the kitchen, it will only be necessary to document the fat-removing properties.

### **Requirements**

#### **1. Dose**

The dose that must be used is the recommended dose for othe product and the recommended dose for the comparative product for normal soils/normal use.

State the dose of the product and of the comparative product.

#### **2. The comparative product**

The comparative product must be recently purchased and must be a product intended for the same area of use and belong to the same product category as the product.

Answer the following:

- a) How long has the comparative product been on the market?
- b) What areas of application do the product and the comparative product have in common?
- c) Why was this product in particular chosen as the comparative product?

### 3. Surfaces

The surfaces on which the products are tested must be relevant to the area of use in respect of which the product is marketed.

- a) What type of surface was used in the test?
- b) Why is this surface relevant?
- c) Is the product gentle on this type of surface?

### 4. Soil

The soil mixture must be as follows: relevant to the area of use of the product – homogenous – based on well-described and internationally available substances.

- a) State the formula for the soil
- b) State why the composition of the soil is relevant to the area of use of the product.

### 5. Washing procedure

The washing procedure must be relevant.

The calcium removing effect may be determined gravimetrically.

- Describe of the wash procedure and specification of relevance.

### 6. Description of the test

Each product/comparative product must be tested for  $n$  parallels (where  $n$  is a minimum of 10). The test is performed by preparing a single portion of soil, which is distributed on  $2 \cdot n$  plates, after which  $n$ -tests are performed using each of the two solutions (product and comparative product).

The testing should be performed by means of random allocation of plates to cleaning product (randomised). This can be done by drawing plates randomly in relation to the order in which they were prepared and then creating a test order which is also drawn randomly.

The reflectance of all plates must be measured before the soil is applied, after the soil has been applied and after washing. Effectiveness, EFF, is calculated separately for each plate and recorded in a table.

- Describe how soiling, washing and measurement/detection were performed.

## 7. Calculation of the wash effectiveness index (EFF)

The wash effectiveness index is calculated using the following formula:

$$EFF = (Rc - Rb) / (Ra - Rb)$$

Ra = Reflectance before soiling

Rb = Reflectance after soiling

Rc = Reflectance after washing

This is performed for each individual parallel of the product and the reference product. The following must also be calculated:

EFFp = Average EFF value for the product undergoing testing

EFFs = Average EFF value for the reference product

## 8. Wash effectiveness

For sanitary cleaning products, both calcium and fat-removing effects must be documented. Fat and calcium-removing effects must comply with the following requirements. In the case of all-purpose cleaners and cleaning products for kitchens, it will only be necessary to determine the fat-removing effect.

One of the following two wash effectiveness requirements must be met:

**8.1)** It must be shown with a 95% unilateral confidence interval that the test product has a wash effectiveness that is greater than or equal to that of the reference product, account being taken of uncertainty. The following formula must be used for this purpose:

$$EFFp - EFFs + (1,73 * ((9*Sp^2+9*Ss^2) / 18)^{0,5}) > 0$$

where 1.73  $((9*Sp^2+9*Ss^2) / 18)^{0,5}$  is the measurement uncertainty (95% unilateral confidence interval), Sp is the standard deviation for EFFp and Ss is the standard deviation for EFFs. The formula is based on 10 parallels of the product and 10 of the reference product.

or

**8.2)**  $EFFp \geq EFFs$

- a) All raw data from testing must be stated.
- b) Wash effectiveness EFF (stated to two applicable digits) is calculated separately for each plate and recorded in a table

---

PLEASE REMEMBER to enclose the FORMULATION for the test product used in the test.