

Swan labelling of
Car- and boat care products
Proposal: Version 5
Background document
October 17th, 2011

Swan labelling of car- and boatcare products
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Nordic Ecolabelling

1 Summary

The first criteria for the Swan label of car care products came in 1993. The product group was expanded to include boat care in October 2004. This is the fourth time the criteria are revised.

During evaluation of version 4, which was presented to NMN in 2010, a number of points were proposed which the project must go through. Some of these points are:

- clarification and adjustment of individual claims
- introduce referencing to the GHS (Globally Harmonized System for classification and labelling of chemicals.)
- investigate whether CDV levels should be differentiated
- consider allowing corrosive classification for powerful degreasers
- study the possibility for eco-marking of premixed washer fluid
- introduce requirements for nanomaterials

This background document provides a brief description of the products and their environmental impact, a market overview and background for the health and environmental requirements that apply to car and boat care

New proposals for criteria for car and boat care products, version 5, are scheduled to be submitted to Nordic Ecolabelling Board in March 2012.

2 Basic facts about the criteria

Products that can be marked

Car and boat care products with a cleansing effect (e.g. degreasing products, shampoo and windshield fluid) and/or polishing function (e.g. wax and polishing products) for car and boat care can be ecolabelled.

The criteria do not include cleaning/polishing products mainly used in areas other than car and boat care.

Runoff agents, rinse products and waxes for automatic car wash can only be ecolabelled if they are part of a system with other ecolabelled cleaning or polishing products for automatic wash. All products in the system/series must be ecolabelled.

In this context system means several products meant to be used together when cleaning the car.

Both consumer products and products for professional use can be ecolabelled. Consumer products are used by the individual car or boat owner, while professional products are used commercially and/or professionally.

Special products like rust protection agents, growth removers for boat bottoms, boat bottom paints, wood oils and equipment for mechanical cleaning (e.g. sponges, brushes, cloths, etc.) cannot be ecolabelled according to these requirements.

Products that cannot be marked

The product group does not include window wash and other cleaning / polishing products with an emphasis on applications other than automotive and boat care.

Special products such as rust inhibitors, growth inhibitors for boat bottoms, antifouling, oil and equipment for mechanical cleaning (eg. wash sponges, brushes, rags, etc.) cannot be Ecolabelled according to the criteria.

Other products that cannot be Swan-labelled, but are eco-marked according to EU Ecolabel criteria for lubricants are:

- motor oil
- transmission/gearbox oil
- lubricant
- grease
- lock oil

Some of the products that were considered to have low RPS / RPM (Relevance, potential, manageability - see also chapter 4) and which are therefore not included in the product group:

Tire adhesive in a can / Chain in a can: low Steerability low Relevance. There are not many variations of this product and we assumed that the active components are generally needed to be the same in order to achieve the function. This is not a commonly used product.

Tire adhesive in a can / Chain in a can: low Steerability low Relevance. There are not many variations of this product and we assumed that the active components are generally needed to be the same in order to achieve the function. This is not a commonly used product, although it has become more common in recent years.

Underbody: "All" products need to contain phthalate / plasticizer since the underbody mass needs to be soft / flexible to work well. We therefore felt that the potential was too low.

Tire colour: A niche product that has low Relevance.

Odour improvers: niche product. The product is irrelevant as a car-& boat product, it is connected instead to the drain or toilet.

Start gas: A niche product with low Relevance and low Potential.

Rust and Antifouling paints, strippers for waxing of different types of hulls, Special products such as wood cleaning and wood oil: Have so different chemistries from other agents belonging to it that it cannot be included in the criteria.

Products that can be eco-label under the EU Eco-label criteria for lubricants and are therefore not included in these criteria:

- Engine oil
- Transmission-/gearbox oil
- Lubricants
- Grease
- Lock oil

Table 1 - Product Overview

Products that can be Swan marked	Products that cannot be Swan marked		
<ul style="list-style-type: none"> - Degreasing Material - De-icing Material - Surfactants - Car-(and boat) polish - (Car) wax (boat?) - (Car / boat) shampoo - Wheel Cleaner - Car and boat window wash - Interior cleaning agents - Carburettor liquids - Dressing fluid - Coolant - Metal plaster product - Engine Wash - Rust removal agent - Rubbing - Washer Fluid - Water repellent agent - Vinyl-and rubber renew / freshener 	<p>Products that were considered to have low RPS:</p> <ul style="list-style-type: none"> - Tire adhesive / Chains in a can - Spare tire in a can - Tire Dye - Odour improvement agents - Start Gas - Rust Protection agent - Underbody mass - Window wash 	<p>Products that can be EU Eco-labeled according to 2005/360/EC:</p> <ul style="list-style-type: none"> - Motor Oil - transmission/gear box oil - Grease - Lock oil 	<p>Special products for boat:</p> <ul style="list-style-type: none"> - Teak Oil (or other wood oil) - Teak Cleaning (or other wood-cleaning) - Boat bottom paint - Growth removal for various types of hull

Products that can be Swan-labelled according to criteria for lubricants:

- Chain oil
- Form Oil
- Hydraulic oil
- Two stroke oil
- Grease
- Metal processing liquid
- Transmission-oil / gear oil
-

These criterias will be laid down from January 2013.

The criteria's version and validity

The first version of the document criteria for car care products was adopted by the Nordic Ecological marking agency in 1993. The criteria focused on three areas: chemicals, packaging and function. The criteria have been revised three times before.

Version 1, 12 February 1993

There are requirements for environmental and health classification, both for product and input components. The product group is limited to car care products such as degreaser, car shampoo and other cleaning agents, waxes and polishes.

Version 2,

Version 2 was approved by the NMN in June 1996.

Version 3

Version 3 was approved by the NMN in March 2000. The biggest changes were expansion of the product group, requirements that all organic substances to be aerobically and anaerobically degradable (some exceptions), introduction of POCP

requirements, weight-benefit requirement was deleted and introduction of the requirement that the spray liquid in disposable packaging can not be Ecolabelled.

After a short consultation in the summer of 2004, in October 2004 NMN adopted an extension of the product group to include boat care products (version 3.6).

Version 4, 14 June 2007

Introduction of new POCP calculation, requirements for NTA and CMR substances.

The Nordic Market

Market for car care products and boat care products revolves around both sale of products for the consumer market (wash by consumers themselves) and for the professional market (car wash for cars, trucks, buses, ferries, ships). There are more than seventy Swan-marked products for more than six licensees in the market. Car care products dominate in number of licenses. The knowledge of the market for boat care is limited within Ecolabelling, but there may be a greater potential here, for example in the cleaning of ships and ferries.

It has not been possible to collect statistics on the total volume of car care products, but as an example, SEAB is today the largest distributor of car care products with sales of 325 million SEK. Their bestseller is Turtle Wax. Two of the largest in Norway (Wilhelmsen Chemicals and Kemetyl) have a turnover of a total of 1 billion NOK. So far, the focus for delivering Swan-labelled products has been consumer products and products for car wash halls for passenger cars. In the future, we can see a greater potential with parties that deliver for cleaning of heavy transport.

SEAB was out early with Eco-labelled products about 10 years ago, and they believe that even they were too early, for environmental interest came later. The biggest challenge has been in combating the perception among consumers that the product quality is too poor.

Petrol stations have developed their own trade marks(EMV), such as Pine Line (Esso) and Selaclean (Statoil). Other sales channels are ICA, Mekonomen, Claes Ohlsson, etc.

The trend in the industry is toward more environmentally friendly products. We know that several major oil companies are testing out Swan-labelled products. The market generally does not expect growth in turnover over the next ten years, beyond what results from the increase in the number of cars.

Consumers know and have confidence in Swan. In the professional market and with public buyers the expertise and knowledge varies to a large degree. We have therefore established the Swan Buyer Club / Nätverk for environment to motivate more of them. Some of the current offensive customers in Norway are the Postal Service, grocery chains and their carriers which are among the most important.

The Danish Market

There are many car care products on the Danish market, but most are imported. Today there are only a few manufacturers left (2-3).

On the other hand, the market for imported products is very large. There are both the big labels (Sonax, Turtle, Alaska, etc.) and several small labels which can be both European and American.

Some stores carry private labels, but most sell the well known labels.

Big labels are sold in many places, but the small labels are usually bought online. There are no official sales statistics, so it is not possible to give a precise amount.

Denmark has a very large manufacturer, Hempel, which specializes in bottom paint, but which also makes products which fall within our category.

Revenue

It has not been possible to get a usable estimate of revenue since the market is so varied and there are no sales statistics.

Trends

Products for washbays are more and more often sold in concentrated versions. This means that the products sometimes should be classified as environmentally hazardous, but this classification disappears again when the product is ready for use.

Products are often sold for a specific purpose, but since the products are meant to wash there is not much difference between them when it comes to chemistry and fragrance, and colour is very common in consumer products, while colour is not as much used in washbay products.

Sprinkler fluid is sold almost exclusively in diluted versions, and concentrated products cannot usually be bought in retail stores. One must buy them in special stores or online.

The Finnish Market

Parties

There are a few major players on the Finnish market at this time. These are Tammermatic and Prowash which sell detergent system automatic vehicle wash. Tammermatic is a producer, Prowash has its production in Sweden (some of the products are Swan-marked in Sweden and registered in Finland). Other major Finnish producers that have production - mostly for consumer products - in Finland are Berner, KiiltoClean and Tekno-Forest, and on the pro side Trans-Meri, Tampereen pesuainepalvelu and Solmaster. There are even a number of small enterprise that import most consumer products (S & N (Turtle Wax), Kaha (Sonax) Autokem (Autoglym), M Järvi (Carlake)), but since there are no statistics, it is difficult to give exact numbers. Typically, players have their own product line (fire), but products for truck washing and similar products are also sold in containers or in tankers. The majority of revenues come from product lines.

Turnover

One contact estimated that sales of products used in car washes for consumers would be about 10 million euro/year. Another contact gave a much lower figure (3.5 to 4 million euro). In addition, products are sold for vehicle washing machines owned by professional operators and transport companies, car dealers and car repair garages. The figure does not cover the washer fluid.

One contact specified that their "greatest" product is washing medium for winter conditions. In general, their sales are divided into 80% of washing products and 20% wax.

Most times the solvent-based micro emulsions of the vehicle wash both cars and trucks are used. The market is still dominated by hydrocarbon micro emulsions since other product types such as ester-based products have not been able to displace these "traditional" products. The use of products such as shampoo and wax is much smaller in volume.

Trends

In the case of washing machines, the trend is to use more super-concentrates. Products are supplied as components which are then mixed in the laundry facility with an automatic dosing system. The use of more "traditional" concentrates has been reduced.

The term "nanotechnology" has emerged in some consumer products. It seems more a marketing thing than a serious trend in product development.

According to one producer, consumers want to have both colour and fragrance in products that are used in car washes. Colour is added for example in wax, because it looks good when you sit in the car when it is washed in the machine, and perfumes are selected according to season (eg, a fragrance of flowers in spring and ginger at Christmas time).

Since alloy wheels have become increasingly popular, consumers require even more efficient wheel washers. There is also demand for new products such as wheel gloss.

Boat care

There are some big international brands on the market, such as Hempel and StarBrite, and even some domestically produced brands such as NavecCre (almost all products in this series are said to be "bio-degradable").

Often, it is very small companies that produce quite simple products for chains. Washing preparations often contain oxalic acid (8%) and surfactants. Wax is used for decks and sides of the boat. Even silicon is present in many products.

Swan licenses

Currently, there are a great number of licenses and products with the Swan label.

Swedish licenses

Manufacturer	Product Name	Product (Professional product, consumer product, part of series, car or boat-care agent, other?)
Day-System AB	AdeKema-produkter: - Prewash Micro - Prewash Alkaline - Insect Remover - Foam Wax - Shampoo - Drying - Arctic Shine Wax	Professional product Serie
Turtle Wax Europe	- Buff n Shine FG4513 - Heavy Duty TFR FG4305 - HP11 Detergent FG4316 - HP28 Wheel Cleaner FG4335 - Prewash Foam FG6379 - Protectant FG6328 - Super Glaze FG6707 - Ultra Wax FG6291 - Total Turtle FG6328	Professional product Bilpleiemidler
Macserien Servicecenter AB	- Mac 2021 fb, miljöpåpassad avfettning - Mac 20 Kristallblank	Professional product Bilpleiemidler

Svenska Statoil AB	Koncentrerad spoljarväska	Professional product
Kemetyl AB	<ul style="list-style-type: none"> - T-Grön natur - Turtle avfettning natur - PAN 5 i 1 - Petrosol naturavfettning - OKQ8 Koncentrerad Spoljarväska - Bilia Koncentrerad Spoljarväska - Kemidex Koncentrerad Spoljarväska Konsument - T-Blå Koncentrerad Spoljarväska - Shell Bio Degreaser Premium 	<p>Consumer products</p> <p>Bilpleiemidler</p>
Biokleen Miljökemi AB	<ul style="list-style-type: none"> - Chassitvätt - Borsttvättschampo med vax - Insektsbort - Tuff Fordongsglans - Tuff GS 	Professional product
Biokleen Miljökemi AB	<ul style="list-style-type: none"> - Caravan Wash & Shine - Marine Wash & Shine - Car Shine - Turtle Caravan Wash & Shine 	<p>Consumer products</p> <p>Bil- og båtpleieprodukter</p>
Petrolia AB	<ul style="list-style-type: none"> - OKQ8 Naturavfettning - Naturavfettning - Avfettning Natur - MEKO Miljöavfettning - OKQ8 Spoljarväska - COOP Spoljarväska - MEKO Spoljarväska koncentrerad - Spoljarväska 	Consumer products
Sanego AB	<ul style="list-style-type: none"> - Solvynol Green - Kombiclean - SK Grøn (DK) - AP-443 - Clean Pro - Solvynol Veg - Solvynol Oc - Solvynol Jumbo 	Professional product
A Clean Partner International AB	<ul style="list-style-type: none"> - Snowclean Truckschampo ECO - Snowclean Micro 130 ECO - Snowclean Borsttvättschampo ECO - Snowclean Borsttvättschampo Vinter ECO - Alfanol Neutral - Alfanol HD - Alfanol HD Grön - Alfanol HD Special - Biotax Autopesu 	Professional product

Norwegian licences

Manufacturer	Product name	Product (Professional product, consumer product, part of series, car or boat-care agent, other?)
Norkem AS	Turtle Avfetting	Consumer products
Norkem AS	Selaclean-produkter: - Dekk Cleaner	Consumer products

	<ul style="list-style-type: none"> - Interiør Cleaner - Motorvask - Felgrens 	
Wilhelmsen Chemicals	Selaclean-produkter: <ul style="list-style-type: none"> - Bilshampo - Bilshampo med voks - Høytrykkschampo - Karosserirens/avfetting - Felgrens - Glass Cleaner - Motorvask - Insekt Cleaner 	
Wilhelmsen Chemicals	HF shampoo og avfetting	
Wilhelmsen Chemicals	Foma-produkter: <ul style="list-style-type: none"> - Bio-Avfetting - Bilshampo - Universalvask - Konsentrert 	Consumer products
Wilhelmsen Chemicals	<ul style="list-style-type: none"> - Spylervæske konsentrert (Mekonomen) - Insektsfjerner - Motorvask - Glassrens - Konsentrert spylervæske - Universalvask - Bilshampo - Vindusspylervæske 	Consumer products

Finnish licences

Manufacturer	Product name	Product (Professional product, consumer product, part of series, car or boat-care agent, other?)
Oy Transmeri AB	<ul style="list-style-type: none"> - AC-16 Plus - AC-17 Plus - AC-18 Plus 	Professional products
Tekno-Forest Oy	Pineline-serien: <ul style="list-style-type: none"> - Painepesu - Car+Go - Tehopesu - Woimapesu - Hyönteisirrote - Vannepesu - Asfaltinpoistaja 	Consumer products
Tekno-Forest Oy	Pineline-serien: <ul style="list-style-type: none"> - Esipesuaine - Huuhteluaine - Vaahtopesu - Tehopesu Super - Kuumavaha - Kiillotusvaha - Harjashampoo - HeavyDuty - Huuhteluvaha - Rengaspesu 	Professional products
Trans-Clean Oy	- Ekoteho harjapesutiiviste	Professional products

	<ul style="list-style-type: none"> - Ekoteho painepesutiiviste - Nowax Bio suojavahanpoistotiiviste 	
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Danish licences

Manufacturer	Product name	Product (Professional product, consumer product, part of series, car or boat-care agent, other?)
AUWA-Chemie GmbH	<p>Auwa-serien:</p> <ul style="list-style-type: none"> - aeropon top 3 - felgolan 100 free - lawalin free - shampan free - skum N7 free - skum special free - drystar*** free - drystar waxx*** free - maxi polish free <p>DryGloss Swan ShineWax Swan PoliCare Extra Swan DryGloss Truck Bus Swan PreLavan Swan ShampoClean Swan ShampoClean Neutral Swan FoamClean Swan FoamClean Forte Swan</p>	Professional products
Petronas Lubricants Italy S.p.A.	<p>Arexons Shampoo Auto Arexons Smash Protettivo Cruscott Arexons Pilitore Vetri e Cristallini Arexons Detergente Cerchioni</p>	Consumer products. Only sold in Italy.

Other marking arrangements

EU Flower

EU Ecolabel has criteria for lubricants.

Good Environmental Choice (Nature Conservation)

All chemical products, from detergents to mascara, can be labelled with the Good Environmental Choice.

Criteria for chemical products apply to all chemicals regardless of the product to which they belong. Under the criteria, it is possible for environmental labelling of everything from cosmetics to laundry detergents and degreasers.

As of today, there are both degreasers and car care products that are marked the Good Environmental Choice.

3 The revision process

The purpose of developing criteria for car- and boatcare products

The evaluation of the document criteria for car and boat care products, version 4, which was presented to NMN in June 2010 pointed out some points that should be reviewed in the audit criteria. Some of these points are:

- R1 Description of the product and Appendix 1: The requirement should be rewritten and adjusted so that the information on the application form completes the requirement without overlap.
- R3-assessment of the product: Introduction of GHS
- R4 Super concentrates: Clarification of the definition of super concentrates
- R5 Environmentally hazardous substances: Reference to Appendix 8 (test method)
- R8 Organic substances, degradability: Introduce reference to Appendix 8 (test method)
- R12 Allergenic fragrances: Enter the perfume ingredients specified in Appendix 3
- R13 CDV: Consideration should be given to the washing machine as a whole, as with similar multi-component systems in textile laundry detergents for professional use. Consider CDV values for certain products but higher value for complete systems that can be applied to machine wash.
- R14 Preservatives: Specify in requirement text, BCF and logKow boundaries and refer to Appendix 8 (test method).
- R15 Volatile organic compounds: Extend the CDV-calculation sheet to include POCP calculation?
- R17 NTA: Updating requirements.
- R24 Package weight: Bag in box packaging. Customize the requirements for new packaging models?
- R26 Effectiveness: Consider changing the requirement that product effectiveness should be measured by using a reference soil.
- Appendix 2, Appendix 5: Specify who should sign the document.
- Appendix 6: Better description of test / standard tests.
- Appendix 8: The appendix should have its own box "test methods and limits"
- General: Documentation requirements should be reviewed and have equal and consistent design.

Review

The project team consisted of Anne Kristine Feltman (project), Svante Sterner (Swedish Project), Mogens Stibolt (Danish Project) and Teri Uusitalo and Hanna Korhonen (Finnish project workers). Jeppe Frydendal and Karen Dahl Jensen have been the site coordinators for the project.

Proposed new criteria will be circulated during the period of September-November 2011 and is scheduled to be presented to NMN in March 2012.

4 Motivation for the requirements

Motivation for the Ecolabelling of Car and Boat Care Products

Car and boat care products will be led into the aquatic environment after use. Car and boat care products not used in washbays have great risk of ending up directly in the aquatic environment without passing through a treatment plant since the

user is outdoors, without access to drains leading to a treatment plant. At the same time these products are to clean/care for equipment which is exposed to very strong soiling and tough external exposure (oil residues, road dirt, sea mist, algae, etc.). Thus it is very relevant that the Nordic Ecolabel focuses on promoting the most environmentally friendly of these products.

The amounts of car and boat care products used in the Nordic countries are large and varying, and therefore the Nordic Ecolabel can ensure less environmental impact when it comes to car and boat care products.

Properties like biological degradability, both aerobic and anaerobic, biological accumulability and toxicity to aquatic life are therefore important environmental parameters for all ingredients.

The substances' ability to form ozone close to the ground through a photochemical reaction is another environmental problem which is also treated in the criteria. The environmental impact depends on how and where the products are used. It is therefore required that users are informed of the best way to wash their car or boat, for example through dosage or choice of location. It is important that ecolabelled car or boat care products are as good as or better than competing products, and there are therefore requirements to the products' function, even though they are not particularly technically advanced.

Assessment of products

The project has, during this audit, thoroughly evaluated different product types and whether they are covered by the criteria for car and boat care. Both MEKA and RPS have been important tools in this assessment.

MEKA analysis method that we use to determine the requirements that we should have in the criteria document, is a simplified life cycle analysis (LCA) method. In the MEKA table you go through the products' environmental impact in five "phases".

- 1) Material / production of raw materials, (Mainly the production of chemical raw materials and packaging material)
- 2) Production (The production of the car / boat care product itself)
- 3) Use phase (When the car / boat is washed, waxed, polished)
- 4) Landfill / disposal research (Used chemicals and packages)
- 5) Transport. (Throughout the life cycle)

Within each of these five "phases" material use / application, Energy use, Chemical Use, and finally Other is evaluated, where eg. working environmental problem may be affected.

MEKA analysis is also a good tool for avoiding requirements that only mean moving the environmental problem from one "phase" to another.

	Material Phase	Production Phase	Use Phase	Disposal phase	Transportation
Material					
Energy					
Chemicals (Kjemikalier)					
Others (Annet)					

Relevance, potential and controllability

Nordic Ecolabelling work involves developing health and environmental requirements for various products. Before work commences on drafting requirements for a new product area, three parameters are considered: Relevance, Potential and Controllability (RPC).

Relevance – Does an environmental problem exist?

Potential – Can anything be done with the problem?

Controllability – Can ecolabelling do anything with the problem?

The MEKA form helps us assess the relevance based on whether there is health and/or environmental impact connected to production, use and waste of the products in question.

Relevance is assessed on the basis of whether there are impacts on health and/or the environment associated with the production, use and waste disposal of the products in question. The potential for reducing the effects on health and/or the environment of the life cycle of the products is then considered. Finally, the question of whether Ecolabelling will provide sufficient controllability for the potential improvements to be realised is considered.

In order to make relevant requirements that move toward real environmental benefits, all three parameters (RPS) must have been considered and concluded that there is Relevance, Potential and Steerability. In exceptional cases, it could be that there is Relevance and Potential or Steerability if we believe that the license applicants / manufacturers who wish Swan-marking can "create" / contribute to the desired parameter that is missing in an RPS: through increased demand and competition.

Assessment of car and boat care in relation to MEKA and RPS

	Material Phase	Production phase	Use Phase	Disposal phase	Transport
Material	1 Packaging Materials	2. No materials used in production.	3. What you wash with (sponge, brush, high pressure washer)	4. Packaging material incinerated, recycled and / or recycled.	5. Pallets, wrapping or cardboard.
Energy	6. Raw material production, energy for the extraction of oil / veg oil and emissions of CO ₂ .	7 Energy consumption and CO ₂ Emissions during the process (the production of packaging and blending of chemical).	8 Pro: EI for car-wash enclosure (including hot water) Consumer: electric to hot water (+ fossil fuel for electricity)	9. Water Treatment Works (wastewater treatment) Energy from the packaging burning.	10. Transport of raw + finished products.
Chemicals	11. Recovering of surfactants and other raw materials from oil or plants (renewable resources).	12. No chemicals used during production	13. Pro-consumer: Consumption of water and generation of POCP.	14. Degradation, allergy (conservation + perfume), environmental hazard, dosing/overd.	15. No chemicals in the transport phase
Other	16. Work environment and ecosystems	17. Working environment, management system	18. Pro + consumer: working environment (including allergy), efficiency	19. Toxic traffic film	20. Eco-driving and logistics.

Some areas, such as chemicals in the disposal phase, have large RPS (environmental problem is relevant, the potential for environmental improvements are present and the Swan can make requirements). Other areas, such as energy consumption in the transport phase (of raw materials or finished products) are of great relevance but are without Steerability.

	High RPS
	High R, no controllability
	High R, low S, but potential.
	No or little RPS.

Areas with high RPS in relation to the requirement areas in criteria

If we look at areas with high RPS, this coincides well with our requirements for car and boat care. All areas in the MEKA assessment that were considered to have high RPS are areas where we are entitled to the Swan labelled car and boat care.

	Material Phase	Production phase	Use phase	Disposal phase	Transport
Material	REQUIREMENTS			REQUIREMENTS	
Energi					
Kjemikalier			REQUIREMENTS	REQUIREMENTS	
Annet		REQUIREMENTS	REQUIREMENTS		

Areas with high R but little manoeuvrability

Other areas were rated as highly relevant in terms of environmental problems, but because of little or no Steerability (i.e., little opportunity to make demands); this area is not the focus of the criteria document. Some areas, especially the material phase, have development potential. Production of raw materials can be energy intensive, but it can be difficult for the Nordic Ecolabel to make requirements to the extraction of raw materials. We believe that the use of energy throughout the entire life cycle of car and boat care products is an environmental burden, but the Nordic Ecolabel has very little chance of influencing what happens for example in the waste phase. What the Nordic Ecolabel can do is make requirements as to the type and amount of packaging.

	Material phase	Production phase	Use phase	Disposal phase	Transport
Material					
Energi					
Kjemikalier					
Annet					

For an overview of which products were assessed with little or no RPM, please refer to chapter 2.

Areas with little or no RPS

Materials and chemicals used in the production and transportation phases are areas where there is little or no RPS. In other words, areas where we choose not to be entitled.

	Material phase	Production phase	Use phase	Disposal phase	Transport
Material					
Energi					
Kjemikalier					
Annet					

Car and Boat Care uses a variety of types of products:

Product	Properties / function
Avfettingsmiddel Løsningsmiddelbasert (kaldavfettingsmiddel) Mikroemulsjoner Vannbasert Alkalisk	Contains mainly hydrocarbons, and / or residual fatty acids and 2-4% surfactants. Degreaser with 5-30% hydrocarbons emulsified in water using 5-20% surfactants. Consists of water solutions of 5-15% surfactants, and usually less than 10% unpolar solvents and complex forms. Water-based degreaser with 5-10% surfactant and 5-20% alkali, eg. Meta silicate, potassium or sodium hydroxide.
Shampo	Composed mainly of water and surfactants, and usually measured out before use.
Voks-shampo	Shampoo with emulsified wax. Wax usually has a feature as a layer on top of the lacquer, but it can also act as a solvent (see water-based degreasers).
Wax	Used to give the paint/surface a protective layer and is found in pure form (hard wax), Is form (liquid hard wax) or in emulsified form (polish).
Run off material/softener	Used in combination with automatic car wash cleaning products helps to help with drying. These materials often contain cation surfactants with a high attraction to the painted surfaces and thus give a water-repellent film. Silicone and polyethylene wax is also used.
Spray Wash	Used to clean the windows and light. They consist of water, alcohols (such as solvents, freeze point-lowering and denaturing agents), surfactants and complex form.

There are also other products in the product group than those described here, that we wish to ecolabel.

1.1 General requirements (applies to all product types)

R1 Description of product

The applicant shall provide detailed information about the products which are desired as Swan, where the following shall be provided:

- The products are intended for consumers and / or professional use
- Technical description of the products and what products can be used (eg. for machine wash, combined washing or manual cleaning)
- Whether the product / product system shall be used for personal car wash, boat wash etc
- Whether the product is a super concentrate (Super Concentrate contains no water).

The product group car and boat care products includes a wide range of different product groups. Product to be eco-labelled should therefore be described based on type of product (car or boat care) and application (consumer products or professional products, etc.).

In this product group, several different types of products for consumer and or professional environment can be marked. The requirements / requirement levels to be met depend on the kind of product and whether it is for the consumer or the professional. Clarification of what kind of product and where to use it facilitates Nordic Ecolabelling's handling of the product. It is for this reason we have instituted requirements about it in R1.

R2 Prescription

A complete prescription for the product to be sent to Nordic Ecolabelling. The prescription should include trade names, unambiguous chemical name, function, health and environmental classification, quantity, CAS number and DID number for each ingoing substance. The active ingredient in the raw material shall also be stated.

A complete recipe also specifies the content of the raw materials / products as opposed to a mixed formulation in which only products to be mixed are declared. It is necessary to require a complete prescription in order to document our requirements for both products and ingredients.

R3 Klassifisering av produktet

Products that will be ecolabelled should not be classified as indicated in Table C3 in accordance with EU Directive 67/548/EEC with later changes and adaptations and/or CLP Regulation 1272/2008 as amended.

Requirements regarding superconcentrates, see R4.

Exceptions from requirements to classification are::

- Washer fluids can be classified R11 (Highly flammable) / H224 (Extremely flammable liquid and vapour) and H225 (Highly flammable liquid and vapour).
- Products for professional use can be classified:
- R22 (Harmful if swallowed) / H302 (Harmful if swallowed)
- R34 (Causes burns) / H314 (Causes severe burns to skin and eyes)
- R65 (May cause lung damage if swallowed) / H304 (Can be fatal if swallowed and enters airways)

Swan's goal is that the environmental and health effects from car and boat care products should be minimized. No changes are proposed in terms of classification, but the CLP Regulation is introduced.

Classification applies in accordance with EU Directive 67/548/EEC with later changes and adaptations and/or CLP Regulation 1272/2008 as amended. During the transition period, that is, until 1 June 2015, the classification according to EU Directive fabric or CLP-regulation is used. After the transition period only classification according to the CLP Regulation applies.

CLP stands for Classification, Labelling and Packaging of Substances and mixtures. CLP is a harmonized system of classification, labelling and packaging of substances and mixtures within the EEA. The system is based on the GHS, which is issued by the UN.

GHS stands for Globally Harmonized System for classification and labelling of chemicals.

Professional products are exempt from part of the classification requirements (only health, not environmental) because the products are used in automatic washing systems where the user is slightly exposed to the products.

R4 Klassifisering av superkonsentrater

Super-concentrates for professional users must not be classified Dangerous to the environment.

Super concentrates must meet all requirements for R3 classification using the form (ie, pre-diluted product ready to use).

The packaging must be designed in such a way that there is no risk that the user will come into contact with the product. For super-concentrates a technical instruction and user manual must ask available describing how to avoid contact with the product.

Super concentrates saves the amount transported since one does not freight water unnecessarily. Super concentrates will still be risk-classified because of the concentrated form. To handle this, we have chosen to require that super concentrates in concentrated form shall not be classified as environmentally hazardous at the same time that the super concentrates in the user solution (fully diluted) shall meet the classification requirements for other products (R3).

The packaging shall be designed so that the user does not risk coming into contact with the product, and is thus exposed to the product. Requirements are therefore made for a technical description and user manual which states how the user should avoid contact with the product.

R5 Environmental Hazardous Substances

The total content of Substances That fulfil the Requirements as two environmental harmfulness According to regulations in Any Nordic country or According to EU Dangerous Substances Directive must not request presented in the product in quantities in excess of the followings:

$100^{\circ}\text{C R50/53} + 10^{\circ}\text{C R51/53} + \text{C R52/53} < 1,5 \text{ g/litre in-use solution}$

$100^{\circ}\text{C H410} + 10^{\circ}\text{C H411} + \text{C H412} < 1,5 \text{ g/litre in-use solution}$

$\text{C R50} < 1,2 \text{ g/litre in-use solution}$

If no information is provided on the environmental harmfulness of the ingoing substance, the substance will be counted as R50/53, alternatively H410.

For super concentrates the maximum permitted quantity is calculated on the super concentrated diluted to ready to use solution.

Requirements limiting hazardous substances in car and boat care products are very important since these products go directly into the aquatic environment.

Substances that are classified as hazardous under current regulations may be included in the product in limited quantities. The requirement is intended to limit the amount of hazardous substances in the product, and thus the greatest potential environmental impact of car and boat wash.

Substances that are persistent can cause problems now and in the future. The effects can be particularly severe if the substance is also acutely toxic. Therefore a requirements must be met for concentration of substances with risk setting 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) and R50 (very toxic to aquatic organisms).

The requirement is formed so that the manufacturers must document that the ingredients are not classified according to the requirement.

R6 Sensitising substances

Products that contains at least one substance classified as sensitising with R42/H334 and/or R43/H317 in a concentration of $\geq 0.1\%$, or any lower limit given in the list of dangerous substances, can not be Nordic Ecolabelled.

Professional products for use in automatic wash installations are exempted, provided that the packaging is designed in such a way that there is no risk that the user will come into contact with the product.

Allergies are a growing problem, and people with allergies can have allergic reactions to car and boat care products that contain substances that are known to be allergenic. This requirement does not ensure against a reaction for all allergy sufferers, but it limits the worst allergenic substances from products.

If the packaging is designed so that the user does not risk coming into contact with the product, likely exposure to products containing allergenic substances is limited. Therefore, an exception is made for professional products for automatic washers.

R7 CMR substances

None of the included substances shall be classified as carcinogenic, mutagenic or reproductively toxic (CMR) with the following risk settings/hazard settings:

R40/H351	R60/H60F	R64/H362
R45/H350	R61/H360D	R68/H341
R46/H340	R62/H361f	
R49/H350i	R63/H361d	
Combination of the R-phrases / H360FD, H361fd, H360Fd.		

The requirements also concern substances which can liberate substances with the above classifications.

NTA present in the product as an impurity in complex makers is exempt from the requirement. The concentration of NTA must not exceed 0,010 % of the product.

Carcinogenic, mutagenic and toxic for reproduction (CMR) compounds. Nordic Ecolabelling has a desire to limit the use of carcinogenic, mutagenic and toxic for reproduction (CMR) compounds to the greatest extent possible and have therefore included these links in this requirement. This requirement is thus a further limitation in relation to the classification requirement.

The requirement is intended to exclude the worst health critical substances from products. The requirement excludes substances such as formaldehyde and NTA (Carc3, R40). From March 2008, NTA was classified as carcinogenic (kat3) and was therefore covered by this requirement.

In certain substances, such as complex forms, carcinogenic NTA can occur as an impurity. This is acceptable if there is no compensatory substance on the market.

R8 Nanomaterials/particles

Nanomaterials/nanoparticles/nanofibers (such as nano-metals, nano-minerals, pure nano-carbon compounds and/or nano-fluorine compounds) should not contain actively added chemical products, unless there is sufficient evidence that they will not cause environmental and health problems.

Nanoparticles are defined as microscopic particles, where at least one of the dimensions are smaller than 100 nm. Nano Metals, for example, nano silver, nano gold, nano copper.

Nanotechnology, which also includes nanoparticles, is used in greater and greater extents in many product areas, including areas where Swan has criteria. The greatest concern is the use of nanoparticles that can be released, thus affecting

the health and the environment. For example, nanoparticles can penetrate healthy cells where they can damage the cell or its DNA in the cell nucleus.

Nanomaterials and nanotechnology is now in use in a number of areas where Swan has criteria. There is concern both with authorities, environmental organisations and others for the lack of knowledge about the harmful effects on health and the environment. Nanotechnology could be involved in solving a number of current environmental problems, for example when used in cleaning technology and renewable energy.

Nordic Ecolabelling is focusing on both traditional and new nanoparticles, and institutes requirements for nanoparticles for the product groups where appropriate.

It is currently not known how and how many nanoparticles will affect the environment. The greatest concern is the use of nanoparticles that can be released, thus affecting the health and the environment. From product production processes, nanoparticles could come out with the waste water or exhaust, and products containing nanoparticles, such as sun creams and car care products (with titanium dioxide, zink oxide or full surging in nano sizes) will after use, wash off and fall into the natural water. Despite the fact that the surface of many small particles as a whole is large, the materials have inadequate classification, and the law does not yet include the new characteristics, and thus limits its use as needed.

R9 Organic substances, degradability

*All organic substances and their degradation products shall be readily aerobically degradable in accordance with OECD Guidelines No. 301 A - F * or Other equivalent methods (surfactants are exempt from the requirements for 10-day window). Surfactants will also be anaerobically biodegradable in accordance with ISO 11734 or other similar method.*

The following compounds are exempted from the degradability requirement:

- *non-chlorinated polymers*
- *non-chlorinated natural and synthetic waxes*
- *preservatives*
- *iminodisuccinate*
- *fragrance (see requirements in R11, R12 and R13)*
- *dyes in windscreen washer fluids*
- *dyes in products for professional use (see R18)*
- *denaturing agents in ethanol*

Substances with low degradability can cause environmental problems, and in those cases where the substances are also acutely toxic, environmental problems can be very serious. A very important feature is organic substances degradability, which is an important environmental parameter that describes how long a substance remains in the environment after discharge. Persistent substances are enriched in the environment, and can both now and in the future pose a risk, even if they are not acutely toxic. Knowledge of persistent substances' long-term impact on the environment is often inadequate. Easy degradability under both aerobic and anaerobic conditions is therefore of great importance from an environmental point of view.

There is a risk that the surfactants that end up in anaerobic environments are not broken down and possibly other toxic substances (that we do not want circulating in the ecosystem). Therefore, we have a requirement that surfactants should also be anaerobically biodegradable.

The requirement for anaerobic biodegradability prevents the use of substances such as LAS, APEO and APD. These substances are still on the list of banned substances in K10 to emphasize that these are undesirable substances in Swan-labelled car and boat care.

Perfume is added to car and boat care to cover up the odour from such surfactants. Perfume is therefore exempt from the requirement for biodegradability, and new requirements for the perfume have been introduced, see K11, K12 and K13.

Some compounds are exempt from the requirement of degradability since it is in their nature to be durable or difficult to break down.

R10 Substances that must not be present in the product

The substances listed below must not be present in the product:

- halogenated and/or aromatic solvents
- chloro-organic compounds or reactive chlorine compounds
- dyes in non-professional products (windscreen washer fluids exempted)
- PBT (persistent, bioaccumulative and toxic substances)
- vPvB substances (very persistent and very bioaccumulative substances)
- substances considered as endocrine disruptors or potential endocrine disruptors, category I or II, according to EC reports.
(http://ec.europa.eu/environment/endocrine/strategy/substances_en.htm)
- linear alkylbenzene sulphonates (LAS)
- alkyl phenol ethoxylates (APEO) and alkylphenol derivatives (APD)
- quaternary ammonium salts that are not readily biodegradable
- benzalkoniumchloride
- silicon and siloxanes
- EDTA, DTPA
- perfluorinated og polyfluorinated alkylerte forbindelser (PFAS)

Halogenated and / or Aromatic Organic Solvents

Halogenated organic compounds include many environmental and health hazardous substances are very toxic to aquatic organisms, carcinogenic or harmful in other ways. The halogenated organic compounds are persistent in the environment, which increases the risk of adverse effects from the drugs. Volatile organic solvents can cause negative effects on the down-to-Earth ozone layer.

Colouring dyes

Colour is added most often for aesthetic reasons, but in some cases it is alleged to be added in order to make correct dosage easy. There are few studies describing the health and environmental properties of dyes. Generally regarded as unnecessary colours of the product's function and are therefore excluded in Ecolabelled car and boat care products for consumer use. The requirements do apply to spray liquids.

PBTs:

Substances that are persistent (slow degrading), bio accumulative (stored in living tissue) and toxic (poisonous).

vPvB (very Persistent, very Bio accumulating)-substances:

Substances that are persistent (difficult degrading), very bio accumulative (stored in living tissue).

LAS:

Linear alkyl benzene sulfonate (LAS) is toxic to aquatic organisms and non degradable in anaerobic environments.

LAS is excluded in K9 (Degradable Organic Substances), but is nevertheless included in the list of substances which do not go in Swan-labelled car and boat care products in order to underline that LAS is an undesirable substance.

APEO and APD:

Alkylphenoethoxyletes (APEOs) are excluded because just some of the biodegrading products are declared by the EU as endocrine disruptors (eg. Nonylphenol). Alkylphenol derivatives (APD) are substances which come from APEO and are excluded because they are harmful to health.

APEO and APD, like LAS, are not anaerobic degradable and are therefore also through K9. The substances are nevertheless included in the list of substances which do not get into the Swan-labelled car and boat care products in order to stress that APEO and APD are undesirable substances.

Per fluorinated and polyfluorinated alkylated compounds (PFAS):

Per fluorinated and polyfluorinated alkylated compounds (PFAS) are a group of substances that have undesirable properties. Fluoride surfactants and other similar substances (with fluorinated carbon chains over 6) decompose into highly stable PFOS and PFOA (perfluorooctanoic acid) and other related substances. These substances are found everywhere on the globe, from the oceans to the Arctic. PFOS has been found in birds and fish and their eggs. Studies show that relations may occur in some types of cleaners as fluoride surfactants, but can also be used in waterproofing agents and other chemical products, where the group of substances is also relevant for other product groups like textiles, shoes, furniture, greaseproof paper and the like. These substances are persistent and easily absorbed into the body. The substances in the group have an impact on the biological processes in the body and are suspected of both endocrine disrupting and carcinogenic properties. [OSPAR, 2005], [MST, 2005b]. PFOS compounds found on the LOUS. The OECD has released a report [OECD, 2007], which lists a number of known problematic PFCs - note however, that the Nordic Ecolabelling's definition of PFAS differs from the OECD, since our definition is somewhat broader. The list shows a number of relevant substances that are excluded by a ban on the use of PFAS.

Per fluorinated and polyfluorinated alkylated compounds (PFAS) cannot be in products. The study shows that compounds can be found in automotive and boat care products. Substances are persistent and are easily absorbed in the body. Substances in the substances group influence the biological processes in the body and are suspected for both endocrine disrupting and carcinogen characteristics. Source: Jensen, AA, Poulsen PB, and Bossi, R. (2006): Chemistry, use, occurrence and effects of per fluoroalkylated acids (PFOS, PFOA, etc.) - A new type of pollutants. The Environment and Health, No 30 April 2006. Interior and Ministry of Health's Environmental Health Research.)

Chlorine Organic compounds or reactive chlorine compounds such can form chlorinated organic metabolites

Reactive chlorine compounds natriumhypochlorite or organic chlorine compounds such as triclosan are used as disinfectant / antibacterial agents. They can be or lead to the formation of toxic, persistent and bio accumulative substances. They can also lead to resistance in bacteria, both against biocides and to antibiotics.

Candidate List

The candidate list is a list of substances with high concern properties (Substances of Very High Concern SVHC), created by the European chemical authorities (ECHA). Substances on the list are candidates for REACH, appendix XIV, which is a list of substances that cannot be traded and used without approval. Suppliers of such substances and of preparations and products containing at least 0.1 percent

of a substance on the candidate list shall provide information to their customers. The candidate list will be continually updated with additional substances. (www.klif.no)

Ingredients that are a large cause for concern (Substances of Very High Concern, MSDS) are often used in substances that meet the criteria to be subject to the approval of REACH, **CMR** -, **PBT**- and vPvB substances and substances that give rise to the same degree of concern, such as endocrine disrupting substances.

Endocrine disrupting substances

None of the components should be on the EU priority list of substances to be investigated for endocrine disrupting effects of class 1 or 2

Category 1: At least one study that indicates evidence of endocrine disrupting effects in an intact organism.

Category 2 The potential for endocrine disrupting effects. *In vitro* data indicates evidence of endocrine disrupting effects in an intact organism. Also includes effects *in-vivo* that can be obtained through hormonal disorder. Can include structural analysis, and metabolic considerations.

Perfumes

In some products one would want to add fragrance in order to hide unpleasant odours from other ingredients. Therefore we allow a limited type of fragrances in car and boat care products.

By opening up the possibility of adding fragrance supplemented by a number of specific perfume requirements, the goal is to significantly increase the interest for the Swan-label for car and boat care products, and overall contribute to even greater environmental benefits.

Perfume is therefore exempt from the requirement of biodegradability (K8). At the same time there is a requirement that perfumes should be added according to IFRA's guidelines and that the 26 allergenic fragrance substances and carcinogenic musk compounds cannot be used. The latter group is already included by the requirement for CMR substances (K7). Perfume is also regulated by the CDV requirement (K10) and the requirement for hazardous substances (K5).

R11 Fragrance - IFRA

*Fragrances used must comply with IFRA's recommendations.
IFRA's (International Fragrance Association) guidelines finnes på www.ifraorg.org/guidelines.asp*

Perfume has no functional effect in the products and are often classified environmentally hazardous (N, R51/53). In addition, the vast majority of perfumes are classified sensitizing (Xi with R43), and some also harmful (Xn with R42). All of the 26 fragrances available at LOUS.

By limiting use/application of sensitising perfumes, we will minimize allergy risk when applying car and boat care products. Perfume should be applied according to the IFRA Code of Practice, as this guarantees that the perfumes are produced and used in a controlled and standardized set.

R12 Musk compounds

Musk compounds and polycyclic musk compounds are not included in car or boat care.:

Moskusxylen

Moskusambrette (CAS-nr 83-66-9)

Mosken (CAS-nr 116-66-5)

Moskustibetin (CAS-nr 145-39-1)

Moskusketon (CAS-nr 81-14-1)

HHCB (CAS-nr 114109-62-5, 114109-63-6, 1222-05-5, 78448-48-3 og 78448-49-4)

AHTN (CAS-nr 1506-02-1 og 21145-77-7)

Reason for exclusion of these substances includes assessments of the substances environmental and health properties by EU scientific committee CSTEE. Musk ketones (cas-nr. 81-14-1) and musk xylenes (cas-nr. 81-15-2) found in the LOUS. Musk compounds are found in breast milk and are suspected to be carcinogenic. HHCB (1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethylcyclo-penta (g)-2-benzopyran) and AHTN (6-Acetyl-1, 1,2,4,4,7-hexamethyltetralin) In connection with the EU risk assessment has also been shown to be associated with cancer risk.

Musk compounds are only partially biodegradable in water treatment plants and therefore can get into the environment via the sewer system and sewage sludge. The compounds are stable in the environment and can bio-accumulate in the food chain.

R13 Allergenic fragrance Substances

The Scientific Committee of the European Commission has identified 26 fragrance chemicals that are especially dubious, and must not be added to car- and/or boatcare products.

Detergent regulation/washing agent regulation 648/2004/EC includes all washing and cleaning materials. The regulation requires the ingredients to be declared and how. For "the 26 allergenic fragrances" shall amounts of > 0.01% be declared.

Allergenic fragrances are not included in car and boat care.

Car and boat care products on the market for both private and professional contain mostly perfume. Admittedly, there are Swan-labelled products that do not contain fragrance, but the market for these is limited. Several manufacturers show little willingness to avoid perfumes in their products.

1.2 Specific requirements

Constituent substances (do not apply to windscreen washer fluids)

R14 CDV (Critical Dilution Volume)

The critical dilution volume (CDV) / litre in-use solution must not exceed the maximum values specified in the table below for CDV acute.

Product	Maximum value for CDV _{akutt} / litre in-use solution
Engine Wash	1 500 000
Degreaser	1 000 000
Shampoo	1 000 000
Runoff Material	400 000
Car wax	300 000
Window Wash	100 000
Other products	1 000 000

There are requirements for the chemicals used in car and boat care. Several of the most common substances that are judged by the Nordic Ecolabel are described in a separate DID list (Detergent Ingredients Database). The specified parameter values should generally be applied to all components found in the DID list.

The levels of demand for these factors are determined by the experiences that Nordic Ecolabelling has received by licensing. If the substance is not listed, the applicant shall document that the requirements are met. The documents must maintain scientific quality and relevance. Relevant test methods are described in the criteria document for car and boat care.

The critical dilution volume (CDV - Critical Dilution Volume) shall be calculated. CDV is calculated on the basis of the degradation factor (DF), acute toxicity factor (TD) and dose. These requirements are not new in principle, but renamed for the sake of the new terminology in the DID list.

The limit value of the old criteria was set at 1 000 000, which at that time was a tightening of the CDV requirement. Experience from the Swan-labelled car and boat care products shows that the CDV levels vary greatly between different product types such as power washing and run off material. Meanwhile, variations within the different product types are also large. In order to take into account the different product types, the project team has desired to introduce differentiated CDV requirements.

The requirement is made to reduce the environmental impact of car and boat care. The environmental impact that is regulated is emissions of chemicals that can be toxic and may not be readily biodegradable. The effluent from the car wash goes through the sewage system, often through a treatment plant or other cleaning technical solution (car washes) to the recipient, where it is important that wash water and sludge from the sewage system have low toxicity and as low a content of environmentally harmful substances as possible.

R15 Preservatives

Preservatives must not be potentially bioaccumulative according to OECD Guidelines 107, 117 or 305, $\log K_{ow} < 4,0$ or $BCF < 500$.

Preservative agents achieve their function as toxic agents (to kill bacteria) and may also have other negative health and environmental properties. Despite this, the use of preservatives is often necessary to ensure a certain life span before a product is obsolete. Preservatives in eco-labelled products should not be bioaccumulative in order to prevent these from concentrating and accumulate in the food chain.

R16 Volatile organic compounds

The product may contain a limited quantity only of volatile organic compounds (VOC) that may contribute to the formation of photochemical smog, measured as POCP.

Products with a VOC content of $< 1.2\%$ do not need to undergo POCP calculation since the requirement will be fulfilled even in a worst case scenario.

The maximum content of VOC in the product is 12 g ethylene equivalents/kilo of product.

Volatile organic compounds are generally undesirable since they often are harmful when used. For certain cleaning operations, there are so few alternative substances that it has been found necessary to allow a small amount of volatile organic compounds. Allowable amounts of VOC are calculated based on the

substance's ability to form photochemical smog (POCP - Photo Chemical Ozone Creation Potential). The calculation is done using the Danish UMIP method.

R17 Phosphate

Boat care product may not contain phosphate.

Car care products may contain phosphate in a content not exceeding 2.5 g/l of final solution (calculated as P). The limit applies to the highest recommended concentration at which the product may be used.

The amount of phosphate is limited in the criteria. Phosphate leads to eutrophication, which leads to algae growth and eutrophication, ie that all available oxygen in the water environment is used up and thus causes fish kills. Phosphates also cause eutrophication and changes in nutritional balance. Phosphates are not included in boat care products as these are products that lead directly to the recipient and not to the treatment plant.

R18 Dyes in professional products

Pigments in dyes must not contain heavy metals (lead, cadmium, mercury, chromium with oxidation level 6), aluminium or copper.

All dyes present in the product as ingredient or in a raw material must be approved for use in foodstuffs in any Nordic country. Alternatively the dyes must have a $\log KOW < 4,0$ or $BCF < 500$.

Dye may have negative health and environmental properties, and can only be added to professional products if the dye is approved in food and that the pigments in the dye are not based on heavy metals (ie lead, cadmium, mercury and chromium in the oxidation step 6), aluminium or copper.

Dyes do not contribute to the ability of detergent to wash clean, but help to decrease the dosage of the products. A correct dosage of the products is essential to achieve environmental improvement.

Dyes approved for applicability in foods have been shown not to pose a significant environmental problem. There are therefore requirement for dyes that are used in the product as ingredients or in a raw material shall be approved for the applicability of the food. Alternatively, it shall be documented that the dye is not bio-accumulative.

1.3 Constituent substances in windscreen washer fluids

R19 Vegetable raw materials

At least 80% by volume of the product must be based on vegetable raw materials.

Renewable resources are considered as environmentally better options than non-renewable resources. Therefore, it is required that at least 80 volume% of the product should be based on vegetable raw materials.

R20 Amount of water

The product may contain a maximum of 10% by volume of water.

Eco-labelling desires to promote concentrated products to reduce transportation and packaging. At the same time, we see that diluted spray liquids represent the largest share of the market, and that the market is very different in the Nordic countries. In Finland, concentrated washer fluid holds a significant share of the market.

R21 Freeze protection of windscreen washer fluids

The recommended doses on the windscreen washer fluid packaging need to fulfil the promised level of freeze protection.

The windshield fluid shall be at least as efficient as other windshield fluids on the market. This shall be documented by a user test where at least 5 different users are to test the product for at least 2 months under relevant conditions (see more on test frames in Appendix 11). All test participants shall evaluate whether the windshield fluid's effect is satisfactory.

Washer Fluids on the market appear to have varying quality and there may be major differences in the freezing point indicated on the packaging and the actual freeze point of the product.

1.4 Packaging and consumer information

22 PVC and information on packaging

PVC and other halogenated plastic shall not be part of the packaging or packaging components (including capsules, lids, pumps and labels).

Plastic packaging (excluding caps and dosage pumps) shall be type marked in accordance with DIN 6120 part 2, ISO 11469:2000 Plastic generic identification and marking of plastic products or similar systems.

Packaging is a considerable part of some products, both when it comes to volume and weight. Packaging components can consist of substances with an environmental or health impact, like PVC or other halogenated plastics, which can cause problems in connection with disposal. PVC is not allowed in packaging for environmentally certified car and boat care products; this is because of the problems of combustion of chlorine-containing plastic. Furthermore, the packaging is marked with the type of plastic to facilitate recycling. To avoid overdose of concentrated products, the packaging shall be designed so that it contributes to the correct dosage. For products that shall be diluted, there shall be clear and easy to understand dosage instructions on the packaging. The packaging for the car wash funds will have information about the selection of suitable site for car wash.

R23 Information about the product

The product must display the following or equivalent text:

- *Clear indication of the product's area of use*
- *clear and comprehensive instructions for dosing*
- *information on the choice of a suitable site for washing (consumer products only)*

Proposal for wording: "To protect the environment, please choose a washing location where the water drains off into a sewage system connected to a public treatment facility."

- *information whether the product is a car or boat care product*
- *freezing point for windscreen washer fluids at recommended doses*

An important environmental parameter is that the product is used for the purpose for which it is manufactured. Improper use of chemical products where the dosage is likely to be regarded as the most common error, leads to unnecessary and increased environmental impact. Therefore it is important that there is clear information relating to the product, so that the user of the product can easily see if and how much product should be diluted, and where and how the product should be used.

R24 Dosage

To avoid overdosing of concentrated products, the packaging must be designed so that correct dosage is facilitated.

Overdosing is probably the most common incorrect usage of chemical products and results in unnecessary and increased environmental impact. Therefore it is important that the product packaging / packaging is designed so that one achieves the correct dosage.

In order to avoid overdosing of concentrated products, the packaging shall be designed so that it helps correct dosage. For products which are to be diluted there shall be clear and easily understandable directions on the packaging.

R25 The weight of the packaging

The windscreen washer fluid packaging may not weigh more than 45 g per litre of concentrated product.

The Nordic market for washer fluid has changed in the direction of diluted products, the opposite of the Nordic Ecolabelling desires. The market for concentrated washer fluid is low, although in Finland and Sweden there are several places where you can fill the washer fluid from the pump. Washer fluid is concentrated and diluted on site.

LCA studies show that production of the spray liquid (especially raw material production) is far more significant for a lifetime perspective compared with packaging. The packaging still has some significance, especially with regards to transportation of empty containers. At this point bags separate themselves from traditional plastic jugs.

R26 Aerosol packaging

Aerosol packaging (i.e. packaging using a propellant gas) may not be used.

1.5 Performance

R27 Efficiency (do not apply for windscreen washer fluids)

The product should be at least as effective as other similar products on the market.

For user/consumer products with a cleansing effect, the effectiveness shall be documented by function tests in accordance with Appendix 9. Dirt, washing object, water temperature, amount of product applied, acting time, mechanical processing, etc. shall reflect the conditions for which the product should be used.

For products for professional use with a cleansing effect, the effectiveness shall be documented with either a functional test in accordance with Appendix 9, or user test in accordance with Appendix 10 where at least five professional organizations shall have tested the product with at least 10 washingscases under relevant conditions.

For polishing products, there are standardized tests, including ASTM D 4955-89 "Standard Practice for Field Evaluation of Automotive Polish."

For all other products with other purposes than a cleansing effect, the effectiveness shall be documented by a test in accordance with Appendix 10.

A car or boat care product that is marketed for a specific cleaning function should be tested for that feature. Car and / or boat care products that are marketed for a specific cleaning function should be tested for that feature, either in the form of functional test or field test. The eco-labelled products should be documented just as well as other similar products on the market.

Dirt, wash object, water temperature, dosage, duration of action, mechanical treatment etc. should correspond to the conditions the products are intended.

For spray liquids, it shall be documented that the recommended doses meet the specified freezing point.

2 Quality and regulatory requirements

R28 Legislation and regulation

A minimum requirement for eco-labelled products is that the manufacturer of raw materials, fuel manufacturer and importer meet all the statutory requirements for the country of the application for license. The reason that Ecolabelling also has regulatory requirements in its criteria is to ensure that these are actually followed. If it turns out that the current laws and regulations are not complied with, the Nordic Ecolabelling can withdraw the license.

R29 Nordic Ecolabel licence person

It is necessary for Nordic Ecolabelling to know which person of the licensee is the contact person in relation to Swan-mark. Therefore, the applicant shall appoint a person as responsible that the requirements of the Swan-labelled product are complied with at all times. Meanwhile, the contact person is responsible for communication with the Nordic Ecolabelling.

R30 Documentation

All documentation that is submitted to Nordic Ecolabelling in connection with the processing of the application shall include a copy to the licensee. The reason for this requirement is that it shall be possible for the license holder's responsible person for the Swan, to locate the documentation and to communicate with the Nordic Ecolabelling of documentation.

R31 Quality of the car or boat care product

It is crucial for a license that the quality of the products is the same throughout the license period. Therefore there is a requirement that the applicant shall submit documentation of what is being done to ensure this. This can, for example, be systems for the storage of batch tests and analysis of the product based on parameters such as acidic number, content of pollutants, etc. It is also important that the licensee has procedures to sample the products.

R32 Planned changes

Changes in the products or the production of the products may have consequences for the Swan license. Therefore, a written explanation of any changes that may relate to the requirements of the products shall be sent to Nordic Ecolabelling. It will then be possible for the Nordic Ecolabelling to inform about what is needed so the change does not affect the license.

R33 Unplanned nonconformities

If the unforeseen deviations occur in the production of eco-labelled products, this may have consequences for the Swan license. Therefore, a written explanation of any unforeseen deviations that may relate to the requirements for the products shall be sent to Nordic Ecolabelling. It will then be possible for the Nordic Ecolabelling to consider the consequences of unforeseen deviations and provide advice as to what action the licensee should do.

R34 Traceability

The licensee shall have traceability of the Swan-labelled product in production. This is especially important in cases where the manufacturer also produces products that are not eco-labelled. If there is not full traceability of the eco-labelled product, the consequence may be lack of compliance of the requirements of the Swan. It is therefore crucial for issuing the license, that the applicant can submit a description of their system of traceability of the eco-labelled products.

R35 Recycling systems for products and packaging

Relevant national regulations, legislation and/or agreements within the sector regarding the recycling and return systems for products and packaging shall be met in the Nordic countries in which the Nordic Ecolabelled products are marketed.

R36 Marketing

The rules for the marketing of eco-labelled products can be confusing if you are not familiar with the specific Nordic country's rules on environmental marketing. Therefore, the marketing of a swan-labelled fuel, comply with "Regulations for Nordic Ecolabelling" 12 December 2001 or later versions of how marketing shall proceed according to the different Nordic countries' national legislation.

5 Changes in relation to the previous criterias

Comparison of the requirements for car- and boatcare products, version 4 and proposal version 5.

Parameter V5	V 4	Samme	Changes	New req.	Proposal version 5
R2 Resept	R2	x			Clarification of the fact that we would fully recipe, with reference to the model prescription.
R3 Classification	R3		x		Implementation of CLP (Classification, Labeling and Packaging of Substances and mixtures). A requirement that only professional products >3L are exempt from classification is changed to apply professional products, regardless of size.
R4 Super-konsentrater	R4		x		Stricter requirements and clarification of the term super concentrate. Have removed the term "concentrate". Super concentrates cannot be classified as Hazardous.
R5 Environmental hazardous substances	R5		x		Introduction of CLP.
R6 Sensitising substances	R6	x			Clarification of policy responsibility. Both the manufacturer and supplier of raw materials shall declare.
R7 CMR substances	R7		x		A new requirement that the rest of NTA can be included at 0.1% due to NTA ban. Clarification of policy responsibility. Both the manufacturer and supplier of raw materials shall declare.
R8				x	Introduction of requirements for

Nanomaterialer/ -partikler					nanomaterials.
R9 Organic substances, degradability	R8		x		Changing of requirements. Only surfactants must meet requirements for anaerobic biodegradability.
R10 Substances that must not be present in the product	R9		x		Stricter requirements. New requirements for PBT substances, vPvB substances and substances which are suspected endocrine disruptors.
R13 Allergenic fragrance substances	R10	x			Clarification of requirements and declaration responsibility. Perfume ingredients are entered in the requirement text.
R14 CDV	R13		x		Changing of requirements. The introduction of differentiated CDV requirements.
R15 Preservatives	R14		x		The requirement is changed. logKow <4.0 BCF <500
	R17		x		NTA has changed the classification and cannot be part of the Swan-labelled products.
R18 Dyes	R18		x		The requirements changed as in K15.
R20 Amount of water	R20	x			Request in the consultation letter about input regarding the diluted spray liquids.
R24 Dosage	R24	x			No change before the hearing.
R27 Efficiency	R26	x			The requirement is clarified so as to be better presented when function test or consumer test shall be used to demonstrate effectiveness.

6 Future criteria

In future criteria one will consider whether to make requirements for energy and VNF, among other things.