

Nordic Ecolabelling of  
**Candles**



Version 1.3 • 13 December 2007 – 30 June 2015



Nordic Ecolabelling

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088 Candles, version 1.3, 15 November 2012

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

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## Addresses

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.

### Denmark

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## What is a Nordic Ecolabelled candle?

A Nordic Ecolabelled candle is a candle meeting specific criteria for environmental performance, health aspects, quality and safety.

A Nordic Ecolabelled candle is a candle that has a clean burning because there are limit values for soot emission and content of health- and environmental damaging chemistry. Furthermore the candle consists of more than 90 % renewable raw materials.

In this document a candle is a light source consisting of an internal wick, which rises through the centre of a column of solid fuel. Typically the fuel is some form of wax, oil or fat and the two most used fuels are stearin and paraffin. In the following this fuel will be named “raw material”.

## Why choose the Nordic Ecolabel?

- The license holder may use the Swan trademark for marketing. The Nordic Ecolabel, the Swan, is a very well-known and well-reputed trademark in the Nordic region.
- The Nordic Ecolabel is a cost-effective and simple way of communicating environmental work and commitment to customers and suppliers.
- Reducing environmental impact often creates scope for lowering costs, such as by cutting the consumption of energy and reducing amounts of packaging and waste.
- Environmentally suitable operations prepare candle products and production for future environmental legislation.
- Environmental issues are complex. It can take a long time and extensive resources to gain an understanding of a specific area. Nordic Ecolabelling can be seen as aid in this work.
- The Nordic Ecolabel not only covers environmental issues but also quality requirements, since the environment and quality often go hand in hand. This means that a Nordic Ecolabel licence also can be seen as a mark of quality.

## What can carry the Nordic Ecolabel?

All candles can carry the Nordic Ecolabel if they meet the criteria in this document. For instance, this could be dinner candles (taper and slender candles), square candles (pillar or column candles), tea lights, graveyard candles, garden candles and candles for decoration.

Candles made with a high content of paraffin cannot receive the Nordic Ecolabel because the content of renewable raw materials shall be at least 90 weight-% of the candle, and paraffin is by definition not a renewable raw material (see R3).

Scented candles cannot receive the Nordic Ecolabel since criterion R13 prohibits fragrances due to the risk of allergy.

Tea lights can only be Nordic Ecolabelled if they are sold without cups or with cups that are either biodegradable or can be used several times. Aluminium cups can not be used several times.

Oil lamps are not regarded as candles in this connection and can therefore not receive the Nordic Ecolabel.

## How to apply

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

### Icons in the text

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

- ☒ Enclosed
- 📍 Requirement checked on site

### Application

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

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

### **Sales in other Nordic countries**

Registering a licence in another Nordic country allows the Nordic Ecolabel to be used on a larger market. The following must be submitted to Nordic Ecolabelling:

- Form for sales in other Nordic countries.
- Instruction manual in the local language.
- Documentation demonstrating the fulfilment of national regulations and possible agreements within the sector regarding the recycling systems for products and packaging.

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

### **On-site inspection**

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

### **Costs**

An application fee is charged to companies applying for a licence. There is an additional annual fee based on the turnover of the Nordic Ecolabelled candles.

### **Enquiries**

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

# 1 Environmental requirements

Are the requirements met?

## R1 Description of the candle

Yes  No

The candle must be described (thickness, weight, height, coloured or not-coloured).

Raw materials in the candle must be described in terms of type, percentage and origin of stearin, paraffin, wax, oil, fat or other substances.

Materials in the wick (cotton, paper, plastic or other) and the wick foot (metal, plastic or other) must also be described.

Any other materials (for example cups/containers encircling the candle) sold as parts of the product also have to be described.

Furthermore, the manufacturer of the candle has to declare the burning time in grams per hour. The burning time must be measured at room temperature (20-27 degrees Celsius) following the standard EN 15426 section 2.2. Furthermore section 9.3 in standard EN 15493 for burning test method must be followed. Then the light must burn in given intervals with at least one break. The candle will be weighed before and after the burning test and the burning time will be calculated as grams burned away divided with the number of hours that the candle has been lighted.

- Description as detailed above. The description must be made by the manufacturer of the candle together with possible suppliers. Product Safety Data Sheets for all raw materials in the candle must be attached to the application.

Appendix No \_\_\_\_\_

*Product safety data sheets shall comply with EU classification system 1999/45/EC with adaptations and amendments.*

## R2 Description of chemical additives and coatings

Yes  No

Chemical additives in the raw material and coating the candle, including auxiliary chemicals, lacquers and dyes, shall be listed with the name, type and use of each additive.

A product safety data sheets for each additive shall be attached to the application.

*Product safety data sheets shall comply with EU classification system 1999/45/EC with adaptations and amendments.*

- List of additives and coatings (including all auxiliary chemicals, lacquers and dyes) and product safety data sheets including CAS numbers for all additives and coatings.

Appendix No \_\_\_\_\_

## R3 Amount of raw material produced from renewable raw materials

Yes  No

The amount of raw materials in the candle produced from renewable raw materials shall exceed 90% of the total weight of the candle.

*Renewable raw materials are biological materials that are reproduced continuously in nature. This includes biodegradable fractions of products and vegetable and animal waste. It also includes remains from agriculture, sustainable forest management and similar industries, as well as biodegradable fractions of industrial and municipal waste. Paraffin is by definition a synthetic petroleum product and therefore never a renewable raw material.*

- Description from the manufacturer of renewable raw materials and declaration from the manufacturer of the candle giving the percentages of raw materials in the candle.

Appendix No \_\_\_\_\_

**R4 Renewable raw materials**Yes  No 

The licensee must ensure that wax from renewable raw materials of vegetable origin (such as palm tree oil) do not originate from forest environments meriting protection due to their high biological and/or social value.

- Supplier details, name of plant (in Latin and one Nordic language) and geographic origin (country/state and region/province/municipality) of the kinds of plants used to produce the renewable raw material.

Appendix No \_\_\_\_\_

Nordic Ecolabelling may request further documentation if there is any doubt as to whether the raw materials are derived from forest environments meriting protection due to their high biological and/or social value.

**R5 Carbon dioxide balance when producing the vegetable raw materials**Yes  No 

The production of the vegetable raw materials must take place without giving a negative carbon dioxide balance.

A negative carbon dioxide balance is when bounded carbon is released and the net emission of carbon from the production area is higher than the amount of carbon that is bounded in the raw material during 10 years. The calculation of the carbon dioxide balance can be done by using a so-called "Carbon Payback Time" method described in reference 19 pp. 81-83 in the background document. The results from the calculation must be verified by a third part independent competent body.

- Statement/calculation showing that the production of raw material has not resulted in a negative carbon dioxide balance.

Appendix No \_\_\_\_\_

If the production of the raw material takes place at a plantation established before November 2005 it is sufficient to declare the date for when the plantation was established.

**R6 Soot index**Yes  No 

The average value of the soot index from 3 tests (samples) shall be less than 1.0 per hour. No individual sample shall exceed 2.0 per hour. This is in accordance with the criterion in EN15426 chapter 3.

- Test report from a test laboratory showing that the requirement is met and that standard EN 15426 has been followed. The test laboratory must meet the criteria in Appendix 2.

Appendix No \_\_\_\_\_

**R7 Chemicals, substances, preparations, additives, lacquers and dyes**Yes  No 

The use of chemicals, substances, preparations, additives, lacquers and dyes containing more than 0.01% by weight of substances that are assigned or may be assigned at the time of application any of the following risk phrases (or combinations thereof) are prohibited:

R40	limited evidence of a carcinogenic effect
R42	may cause sensitization by inhalation
R43	may cause sensitization by skin contact
R45	may cause cancer
R46	may cause heritable genetic damage
R49	may cause cancer by inhalation
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
R59	dangerous to the ozone layer
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
R68	possible risk of irreversible effects

*Risk phrases as laid down in Council Directive 67/548/EEC of 27 June 1967 on the approximation of the laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances and its subsequent adaptations and amendments.*

- Declaration from the licensee and manufacturers of chemicals, substances, preparations, additives, lacquers and dyes that the requirement is met.

Appendix No \_\_\_\_\_

**R8 Azo dyes and azo lacquers**

Yes  No

Azo dyes and azo lacquers that may cleave to any one of the following aromatic amines giving a concentration above 30 ppm shall not be used:

4-aminodiphenyl	(92-67-1)
Benzidine	(92-87-5)
4-chloro-o-toluidine	(95-69-2)
2-naphthylamine	(91-59-8)
o-amino-azotoluene	(97-56-3)
2-amino-4-nitrotoluene	(99-55-8)
p-chloroaniline	(106-47-8)
2,4-diaminoanisol	(615-05-4)
4,4'-diaminodiphenylmethane	(101-77-9)
3,3'-dichlorobenzidine	(91-94-1)
3,3'-dimethoxybenzidine	(119-90-4)
3,3'-dimethylbenzidine	(119-93-7)
3,3'-dimethyl-4,4'-diaminodiphenylmethane	(838-88-0)
p-cresidine	(120-71-8)
4,4'-methylene-bis-(2-chloraniline)	(101-14-4)
4,4'-oxydianiline	(101-80-4)
4,4'-thiodianiline	(139-65-1)
o-toluidine	(95-53-4)
2,4-diaminotoluene	(95-80-7)
2,4,5-trimethylaniline	(137-17-7)
4-aminoazobenzene	(60-09-3)
o-anisidine	(90-04-0)

*The list is according to regulation (EC) No 1906/2006 of the European Parliament and of the Council of 18 December 2006 (REACH) amendment 8, paragraph 43.*

- Declaration from the manufacturer of dyes and lacquers signifying that the requirement complies provided that the manufacturer's own recommendations on use and dosage are met.

Appendix No \_\_\_\_\_



- R9 Heavy metals** Yes  No
- None of the following heavy metals must be added to any part of the candle:
- Mercury (Hg)
  - Lead (Pb)
  - Cadmium (Cd)
  - Zinc (Zn)
  - Copper (Cu)
  - Nickel (Ni)
  - Cobalt (Co)
  - Antimony (Sb)
  - Chrome (Cr)
- This requirement also covers the use of dyes, lacquers and other chemical products.
- Declaration from the manufacturer of candle, raw materials, wick, wick foot, dyes, lacquers and other chemical products that the requirement is met. Appendix No \_\_\_\_\_
- R10 Aromatic solvents** Yes  No
- Aromatic solvents must not be used in the production of the candle.
- The exception is the possible paraffin fraction.
- Declaration from the candle manufacturer and the manufacturers of raw materials, wick, dyes, lacquers and other chemical products that the requirement is met. Appendix No \_\_\_\_\_
- R11 Halogenated solvents** Yes  No
- Halogenated solvents must not be used in the production of the candle.
- Declaration from the candle manufacturer and the manufacturers of raw materials, wick, dyes, lacquers and other chemical products that the requirement is met. Appendix No \_\_\_\_\_
- R12 Total amount of organic solvents** Yes  No
- The content of organic solvents must not exceed 1% by weight of the candle.
- Alternatively, reference may be made to test results, which show the Total Volatile Organic Compounds (TVOC) in the candle to be less than 1200 µg/m<sup>3</sup> of air measured in a test chamber for 24 hours and using gas chromatography/mass spectrometry (gc/ms). Testing must follow the method described in ISO 16000-6:2004.
- Organic solvents are defined as organic compounds with a vapour pressure above 0.01 kPa at 293.12 K in accordance with the EU VOC directive.*
- Declaration from the candle manufacturer and the manufacturers of raw materials, wick, dyes, lacquers and other chemical products that the requirement is met. Alternatively, test report which shows that TVOC is less than 1200 µg/m<sup>3</sup> of air using ISO 16000-6:2004. Appendix No \_\_\_\_\_

- R13 Fragrance** Yes  No   
 The candle must not be added any kind of fragrance or aroma with the purpose of giving the candle a certain scent.
- Declaration from the candle manufacturer and the manufacturers of raw materials, wick, dyes, lacquers and other chemical products that the requirement is met. Appendix No \_\_\_\_\_
- R14 Phthalates** Yes  No   
 The candle must not contain phthalates of any kind.
- Declaration from the candle manufacturer and the manufacturers of raw materials, wick, dyes, lacquers and other chemical products that the requirement is met. Appendix No \_\_\_\_\_
- R15 Other parts** Yes  No   
 All other parts like cups and containers encircling the candle and sold together with the candle shall be biodegradable.  
 If this is not the case the parts shall be re-used for the same purpose.  
 Materials that are only used once are not allowed. These are for instance aluminium cups to tea-lights.
- Declaration from the manufacturer of the parts that the requirement is met. Appendix No \_\_\_\_\_
- R16 Wick** Yes  No   
 The wick shall not contain any kind of metal and the cotton must be öko-tex 100 certified.
- Declaration from the manufacturer of the wick that the requirement is met and a copy of the öko-tex 100 certificate. Appendix No \_\_\_\_\_
- R17 Product and transport packaging** Yes  No   
 Products and transport packaging (including labels) containing PVC or other plastic containing chlorinated material must not be used. Product packaging must not exceed 5 % of the candles weight.
- Exception for thin candles:**  
 For candles with a length/diameter relationship higher than 8, in a packaging with five or less candles, must the packaging not exceed 9 % of the candles weight.
- Declaration from the manufacturer of candles that the requirement is met including a calculation showing that product packaging does not exceed the weight-% of the candles weight (specified above). The licensee must give information about requirements to packaging to customers (retailers). Documentation showing that the packaging does not contain PVC must also be submitted. Appendix No \_\_\_\_\_

**R18 Information to the consumers**

Yes  No

The consumer must be informed about the burning time for one candle. Either written information on the packaging or with a text placed nearby the candles where they are sold.

The licensee shall follow the standard EN 15494 for product safety labels and warnings.

Safety information in Annex A of standard EN 15494, figure A1, A4 and A6, shall also be followed even though this is optional supplementary safety information in the standard.

- Copy of text on packaging and text about the burning time of one candle. The licensee is obligated to pass on information about this requirement to customers (retailers).
- Copy of safety labels and warnings showing that the standard EN 15494 has been followed must also follow the application.

Appendix No \_\_\_\_\_

Appendix No \_\_\_\_\_

**R19 Fire safety**

Yes  No

The licensee must follow the standard EN 15493 for fire safety. If other materials (see R15) are connected to the candle it must be documented that such materials do not pose a risk on fire safety.

- Test report from a test laboratory showing that the standard EN 15493 has been followed. The test laboratory must meet the criteria in Appendix 2. Documentation for fire safety regarding possible other materials.

Appendix No \_\_\_\_\_

**2 Other requirements**

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

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

**R20 Legislation and regulations**

Yes  No

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

**R21 Nordic Ecolabel licence administrator**

Yes  No

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

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

Appendix No \_\_\_\_\_

- R22 Documentation** Yes  No   
 The licensee must be able to present a copy of the application with factual and calculation data supporting the documents submitted on application (including test reports, documents from suppliers and suchlike).  
 🔑 Checked on site.
- R23 Planned changes** Yes  No   
 Written notice must be given to Nordic Ecolabelling of planned changes that have a bearing on Nordic Ecolabel requirements.  
 Procedures detailing how planned changes are handled. Appendix No \_\_\_\_\_
- R24 Unplanned nonconformities** Yes  No   
 Unplanned nonconformities that have a bearing on Nordic Ecolabel requirements must be reported to Nordic Ecolabelling in writing and journalized.  
 Procedures detailing how unplanned nonconformities are handled. Appendix No \_\_\_\_\_
- R25 Traceability** Yes  No   
 The licensee must have a traceability system for the production of the Nordic Ecolabelled candles.  
 Description of/procedures for the fulfilment of the requirement. Appendix No \_\_\_\_\_
- R26 Training** Yes  No   
 All employees and contractors that are part of the daily operations must have the know-how to ensure fulfilment of Nordic Ecolabel requirements.  
 Procedures detailing how training is taking place. Appendix No \_\_\_\_\_
- R27 Take-back system** Yes  No   
 Relevant national regulations, legislation and/or agreements within the sector regarding the recycling systems for products and packaging shall be met in the Nordic countries in which the Nordic Ecolabelled candles are marketed.  
 Declaration from the applicant regarding adherence to existing recycling/ take-back agreements. Appendix No \_\_\_\_\_
- R28 Marketing** Yes  No   
 Marketing of the Nordic Ecolabelled candles must comply with "Regulations for the Nordic Ecolabelling of products" 22 June 2011 or later versions.  
 Appendix 1 duly completed. Appendix No \_\_\_\_\_

## Marketing

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

The label must be positioned so that there is no doubt as to what the label refers and so that it is clear that the candles are Nordic Ecolabelled.

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

## Design of the Nordic Ecolabel

Design of the Nordic Ecolabel:



Licence number

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

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

## Follow-up inspections

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

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

Random samples may also be taken in-store and analysed by an independent laboratory. If the requirements are not met Nordic Ecolabelling may charge the analysis costs to the licensee.

## How long is a licence valid?

Nordic Ecolabelling adopted the criteria for candles on 13 December 2007. The criteria are valid until 31 December 2011.

The secretariat managers meeting adopted, on 16 December 2009, a change in R17. The new criteria version is called 1.1.

On 9 November 2010 the secretariat managers meeting decided to prolong the criteria until 31 December 2013. The new version is called 1.2.

On 15 November 2012 the secretariat managers meeting decided to prolong the criteria until 30 June 2015. The new version is called 1.3.

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

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

## Future Criteria

In future requirements Nordic Ecolabelling will among other things consider whether to:

- Increase the percentage of wax produced from renewable resources (see definition in criterion R3) to more than 90%.
- Have a requirement to how packaging can support high transport efficiency when transporting candles.
- Have a requirement stating that the wick shall be unbleached and made of organic cotton.
- Have requirements to working conditions.

## **Appendix 1            Marketing of Nordic Ecolabelled candles**

We hereby certify that we are well acquainted with the regulations governing the use of the Nordic Ecolabel, as detailed in "Regulations for the Nordic Ecolabelling of products" 22 June 2011 or later versions. We agree to follow these regulations when marketing the Nordic Ecolabelled candles.

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

We undertake to advise those individuals within the company involved in marketing the Nordic Ecolabelled candles of the criteria for the Nordic Ecolabelling of candles and "Regulations for the Nordic Ecolabelling of products" 22 June 2011 or later versions.

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Date and place

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Company

---

Signature, contact person

---

Clarification of name

---

Phone

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Signature, marketing director

---

Clarification of name

---

Phone

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

## **Appendix 2 Analysis and test laboratories**

### **Requirements on the analysis laboratory**

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

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

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