Nordic Ecolabelling for

# Cleaning of liquid damaged electronics

Version 2.0 • 13 November 2024 – 31 October 2029

Nordic Ecolabelling

# Content



108 Cleaning of liquid damaged electronics, version 2.0, 13 November 2024

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

---

# Contact info

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

**Denmark**
Ecolabelling Denmark
info@ecolabel.dk
www.ecolabel.dk

**Finland**
Ecolabelling Finland
joutsen@ecolabel.fi
www.ecolabel.fi

**Sweden**
Ecolabelling Sweden
info@svanen.se
www.svanen.se

**Iceland**
Ecolabelling Iceland
ust@ust.is
www.svanurinn.is

**Norway**
Ecolabelling Norway
info@svanemerket.no
www.svanemerket.no

# What is Nordic Swan Ecolabelled cleaning of liquid damaged electronics?

Nordic Swan Ecolabelled cleaning of liquid damaged electronics is a service whereby electronic devices such as laptops, tablets, mobile phones and smart watches are rescued/repaired after having sustained damage from a liquid such as coffee, wine or a soft drink. Under the Nordic Swan Ecolabel, the service must be performed quickly and effectively, with reasonable consumption of energy and water, and using only ecolabelled cleaning agents. The Nordic Swan Ecolabel also ensures that any electronic parts that are removed, or devices that cannot be saved, are handled responsibly in the waste phase.

Nordic Swan Ecolabelled cleaning of liquid damaged electronics:

- Has a good success rate of min. 50%, which prevents electronics waste and saves resources to produce new electronics
- Ensures a fast service
- Involves limited use of energy and water
- Only uses Ecolabelled cleaning agents
- Ensures the correct handling of electronic waste

# Why choose the Nordic Swan Ecolabel?

- Cleaning of liquid damaged electronics may use the Nordic Swan Ecolabel trademark for marketing. The Nordic Swan Ecolabel is a very well-known and well-reputed trademark in the Nordic region.
- The Nordic Swan Ecolabel is a simple way of communicating environmental work and commitment to customers.
- The Nordic Swan Ecolabel clarifies the most important environmental impacts and thus shows how a company can cut emissions, resource consumption and waste management.
- Environmentally suitable operations prepare for future environmental legislation.
- Nordic Ecolabelling can be seen as providing a business with guidance on the work of environmental improvements.
- The Nordic Swan 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 Swan Ecolabel licence can also be seen as a mark of quality.

# What can carry the Nordic Swan Ecolabel?

These criteria provide for the Nordic Swan Ecolabelling of a service that cleans and saves liquid damaged personal computers, tablets, mobile phones and smart phones and -watches. The service may be limited to only certain types of electronic products (for example, laptops only). The cleaning process may be manual, semi-manual or fully automated.

The service is counted from the time that the business receives the liquid damaged electronic device, until the device is cleaned and dried, any corrosion has been stopped and the product is ready to be returned to the customer.

# How to apply

**The licence structure is divided as follows:**

Companies that have control over the process and can document the full compliance with Nordic Ecolabellings requirements can apply for a licence.

It can be, for example, a single workshop that offers the service – or the supplier of a fully automated process that delivers the technology to several workshops, which offers the service then. If it is a supplier of a fully automated process that is the licensee, the licence must state which workshops and submission sites are associated with the Nordic Swan Ecolabel licence. Only the workshops and places of delivery attached to the licence may market themselves with the Nordic Swan Ecolabel.

### Application and costs

For information about the application process and fees for this product group, please refer to the respective national web site. For contact information see in the beginning of this document.

### What is required?

The application must consist of an application form/web form and documentation showing that the requirements are fulfilled.

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

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

✉ Enclose

🔑 The requirement is checked on-site

All information submitted to Nordic Ecolabelling is treated confidentially. Suppliers can send documentation directly to Nordic Ecolabelling, and this will also be treated confidentially.

### Licence validity

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

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

### On-site inspection

In connection with handling of the application, Nordic Ecolabelling normally performs an on-site inspection to ensure adherence to the requirements.

For such an inspection, data used for calculations, original copies of submitted certificates, test records, purchase statistics, and similar documents that support the application must be available for examination.

**Queries**

Please contact Nordic Ecolabelling if you have any queries or require further information. See contact information first in this document. Further information and assistance (such as calculation sheets or electronic application help) may be available. Visit the relevant national website for further information.

## 1.1 Description of the service

### O1 Description of the service

The applicant must submit the following information about the service:

- Trade name(s)
- The types of electronic devices that are cleaned.
- Workshops and drop-off points included in the application, with their full name and address plus GPS coordinates.
- Description of the process from the customer dropping off their liquid damaged electronic device until its return to the customer.
- A description of the technology and the materials, chemicals and similar used.
- Any subcontractors who provide part of the service must be described with company name, production location, contact person and the production processes used.

✉ Detailed description of the points above. Any product data sheet may be sent as part of the documentation. A flow chart is recommended to explain the production process.

## 1.2 Effectiveness and quality of the service

### O2 Rescue rate

At least 50% of the smartphones, tablets and smart watches deposited submitted and screened* and at least 65% of the laptops deposited and screened* are to be returned to the customer in a usable condition**. The rescue rate is to be achieved and documented per cleaning location/facility.

For all electronics products that are rescued and which according to product warranty rules are within the warranty period, the licensee is responsible for the warranty for the remaining period of the product warranty period.

** "Deposited and screened" means that the electronic devices have been deposited with a technician, who has conducted an initial assessment of whether the device can realistically be saved by cleaning.*

*** "Usable state" means that the technician conducts a final check of the electronic device's functionality. It must be established at this point that the device is in the same state and has the same level of functionality as before the damage, and this is to be confirmed using a standard procedure from the manufacturer of the electronic device.*

✉ The licence applicant must submit statistics from every single cleaning location/facility: 1. Deposited and screened electronics. 2. The percentage of the devices that are returned to the customer in a usable condition.

✉ Calculation showing fulfilment of the requirement.

✉ Declaration from the licensee and workshops (if workshops are linked to the licence) that after cleaning the electronic device is tested for functionality under standard testing procedures from the manufacturer of the electronic device.

✉ Declaration from the licensee that they take over the warranty for the remaining period of the product warranty period, for all electronics products that are rescued, and which were still within the product warranty period. In addition, a description of how such a guaranteed system is maintained and secured to customers.

### O3 Cleaning speed

For each cleaning location/facility in the licence application, the total time for the cleaning process and drying must not exceed one working day.

*Additional repairs and replacement of components are not included in this working day.*

✉ The licence applicant must provide documentary evidence that the cleaning process and drying are completed within one working day. If the licence covers multiple cleaning locations/facilities, documentation must be provided for each one.

### O4 Stopping corrosion

An independent, qualified* third-party laboratory must have conducted a test programme that, based on their expertise, provides documentary evidence of the cleaning process's ability to stop corrosion.

The test is defined by the independent third party but must, as a minimum, include:

- Three days of exposure to a representative liquid (such as cola, coffee or wine) for one or more types of electronic device that correspond to the devices for which a licence is being sought.
- Optical assessment of the corrosion and a check of system functions immediately after cleaning, after one week, after three months and after six months.

* *"Qualified" means that the laboratory has expertise in testing corrosion – including accreditation to perform corrosion tests in accordance with ISO 9227. The laboratory must also comply with Appendix 1.*

✉ Report from qualified third party showing that no further corrosion occurs in products that have been through the cleaning process. The report is to be based on the stipulations above.

## 1.3 Environmental requirements

The requirements in this section are limited only to the cleaning and drying process for the liquid damaged electronic device. They do not relate to energy or water consumption within the business, such as lighting, ventilation, water for the kitchen, and so on.

### O5 Energy consumption

The total average annual consumption for the cleaning and drying process ($A_{energy}$) must not exceed the threshold value for energy consumption ($G_{energy}$). The requirement is to be fulfilled and documented per cleaning location/facility. The threshold value per saved device ($F_{energy}$) is 5 kWh/unit.

$A_{energy} \leq G_{energy}$

Calculation of $G_{energy}$ and $A_{energy}$:

$$G_{energy} = Number \cdot F_{energy}$$

$A_{energy}$ = the energy used (electricity consumption) in kWh for cleaning and drying.

$G_{energy}$ = Threshold value for energy consumption in kWh at the workshop for cleaning and drying.

$F_{energy}$ = Factor value for energy use (electricity consumption) in kWh per saved device.

Number = Number of saved devices that are returned to the customer in a usable condition, see O2.

✉ For each cleaning location/facility: Measurements of energy consumption for the process over a limited period compared with the number of electronic devices that have been saved and returned to the customer in a usable condition.

## O6 Water consumption

The total average annual consumption for the cleaning and drying process ($A_{water}$) must not exceed the threshold value for water consumption ($G_{water}$). The requirement is to be fulfilled and documented per cleaning location/facility. The threshold value per saved device ($F_{water}$) is 120 litres/unit.

$A_{water} \leq G_{water}$

Calculation of $G_{water}$ and $A_{water}$:

$$G_{water} = Number \cdot F_{water}$$

$A_{water}$ = The water used in the process, expressed in litres.

$G_{water}$ = Threshold value for water used in the process at the workshop, expressed in litres.

$F_{water}$ = Factor value for water consumption in litres per saved device.

Number = Number of saved devices of type i that are returned to the customer in a usable condition, see O2.

✉ For each cleaning location/facility: Measurements of water consumption for the process over a limited period at the workshop(s) compared with the number of electronic devices that have been saved and returned to the customer in a usable condition.

## O7 Wastewater

When applying for a licence and then once a year thereafter, the licensee must test wastewater from at least one cleaning facility/machine for the following heavy metals:

- Arsenic (As)
- Lead (Pb)
- Mercury (Hg)
- Copper (Cu)
- Cadmium (Cd)
- Nickel (Ni)
- Chromium (Cr)

The wastewater test is to be performed on the water that is discharged from the cleaning facility/machine into the sewerage system (possibly after some kind of treatment).

The test is to be performed by an independent third-party laboratory* that is accredited to test for heavy metals in wastewater.

Test method: EN ISO 11885 or equivalent national standard.

If internal wastewater treatment takes place, the licensee must submit documentation containing, as a minimum, a description of the treatment method and how any waste products are dealt with.

The reason for choosing cleaning facilities/machines from which to collect wastewater samples must be explained, and the reasoning must demonstrate that the licensee is working to ensure a representative sample.

** Requirement for third-party laboratory, see Appendix 1.*

✉ Description of how wastewater samples from cleaning facilities/machines have been chosen.

✉ Test results for wastewater samples that have been tested for the heavy metals listed in the requirement. The test must be performed in line with the parameters set out in the requirement.

✉ Procedure showing that once a year a wastewater test is performed at a minimum of one cleaning facility/machine, including a description of how the cleaning facilities/machines are chosen for wastewater testing.

✉ If any wastewater treatment is carried out internally: Description of the wastewater treatment method plus description of how any waste products from that process are dealt with.

## O8 Chemical products

All the chemicals used in the process must carry either:

the Nordic Swan Ecolabel under one of the following criteria:

- Industrial cleaning and degreasing agents,
- Cleaning products,
- Dishwasher detergents for professional use,
- Dishwasher detergents and rinsing agents,
- Hand dishwashing detergents,

or

the EU-Ecolabel under one of the following criteria:

- All-purpose cleaners and cleaners for sanitary facilities,
- Industrial and institutional automatic dishwasher detergents,
- Dishwashing detergents,
- Hand dishwashing detergents,

or

Products labelled with Good environmental choice according to the current criteria for ”Chemical products”.

✉ List of chemicals used, with trade name, supplier and licence number for Nordic Swan Ecolabel/EU Ecolabel/Good environmental choice.

## O9 Processing of electronic waste

The licensee must have a procedure in place whereby they offer to dispose of unsalvageable electronic devices on behalf of the customer.

All the unsalvageable electronic devices and any discarded components must be sent to an environmentally approved recipient of electronic waste* or sent back to the producer under a Swap scheme**.

If electronic waste is not sent directly to an environmentally approved recipient of electronic waste or via a Swap scheme, but via an approved collector, the collector must provide documentation that they deliver the waste to an approved recipient of electronic waste.

Licensee is responsible for deleting al data on the collected electronic waste. If the licensee is not the party that has the everyday contact with the customers, with this

responsibility falling instead to suppliers such as workshops, there must be an agreement with the supplier on how electronic waste is handled so that it ensures that data is deleted.

[*] *In Denmark the electronic waste must be handed according to the applicable Electronic Waste Order. For private individuals it means a municipal recycling station and for companies it means a collection company designated by the manufacturer. The collection company must have both environmental approval and an approved collector training scheme[1].*

*In Sweden the electronic waste is to be deposited at a recycling station that has an agreement with ElKretsen. Alternatively, the electronic waste can be collected by a collector that has ElKretsen approval.*

*In Norway the electronic waste (EE waste) must be deposited with municipalities or retailers who sell equivalent EE products, for example electronics retailers, supermarkets and toy stores. Three recycling companies are currently approved by the Norwegian Environment Agency to deal with all types of EE waste: Norsirk AS, ERP Norway AS and RENAS AS. Importers and producers of EE products must be members of one of these recycling companies.*

*In Finland the electronic waste must be sent to one of the five approved producers' associations: ERP Finland, SER-Tuottajayhteisö, SELT, ICT-Tuottajaosuuskunta or Flip.*

*In Iceland the electronic waste is to be deposited at an approved recycling station.*

[**] *Under a Swap scheme, the damaged electronic part is sent back to the producer of the electronic device along with an order for a new part of the same kind.*

✉ Description and procedure for ensuring that the licensee offers to dispose of unsalvageable electronic devices on behalf of the customer.

✉ Description and procedure for the management of electronic waste, demonstrating fulfilment of the requirement – including who collects and receives the waste.

✉ If a Swap scheme is not used: Documentation from the waste recipient showing that they have environmental approval to receive electronic waste. If a collector is used, the collector must document their approval to collect electronic waste. This must comply with the systems set out in the requirement for each country for which a licence is being sought.

✉ Description of routine for deleting data on electronic waste along with agreement with the company/organization that helps with deletion of data. If the licensee is not the party that has the everyday contact with the customers, there must be an agreement with the supplier on how deleting of electronic waste is handled (either at the licensee or the supplier).

## 1.4 Environmental management and regulatory requirements

Quality and regulatory requirements are general requirements that are always included in Nordic Ecolabelling's service criteria. The purpose of these is to ensure that fundamental quality assurance and applicable environmental requirements from the authorities are dealt with appropriately. They also ensure compliance with Nordic Ecolabelling's requirements for the service throughout the period of validity of the licence.

[1] https://mst.dk/affald-jord/affald/indsamleruddannelsen/

## O10 Organisation and responsibility

An organisational chart must be drawn up. Responsibility and authority for central environmental functions shall be defined. Responsibility for the Nordic Swan Ecolabel licence, marketing, training and purchasing shall be specified, and the contact person for Nordic Ecolabelling named.

If the licensee is not the party with everyday responsibility for compliance with certain requirements, with this responsibility falling instead to suppliers such as workshops, the following must also be included in the organisational description: The connection between the licensee and the suppliers that have contact with the customers (workshops). Who has contact with the suppliers on behalf of the licensee and in which areas?

✉ Copy of organisational chart as described in the requirement.

## O11 Documentation

The licensee must archive the documentation that is sent in with the application as long as the Nordic Swan Ecolabel licence remains valid. All the documents regarding the licence must be easily available on the premises of the licensee. The contact person for communication with Nordic Ecolabelling is responsible for ensuring that the documentation is updated and available.

🔑 This is checked on site as necessary.

## O12 Technical servicing

The licensee must have procedures/service agreements in place to ensure ongoing technical servicing. The procedures must document that the licensee conducts an inspection of the cleaning facilities/machines at least once a year. In addition, the licensee is to constantly monitor the cleaning facilities/machines to ensure that servicing can be carried out as soon as the need arises.

Service reports must be saved and be readily available.

✉ Copy of the procedure for control and servicing or a service agreement detailing how inspections are conducted.

🔑 Service records, test records and other records will be checked on site.

## O13 Changes, self-assessment and nonconformities

Nordic Ecolabelling must be notified of and approve any planned changes in products and markets, such as the replacement of chemicals, that have a bearing on Nordic Ecolabelling requirements. Unplanned nonconformities that have a bearing on Nordic Ecolabelling's requirements must be reported to Nordic Ecolabelling.

If the licensee is not the party that has everyday contact with the customers, with this responsibility falling instead to suppliers such as workshops, the licensee must inform Nordic Ecolabelling when new suppliers become part of the service provision or a supplier is no longer involved in providing the service.

✉ Copy of procedures for changes and nonconformities.

✉ If the licensee is not the party that has everyday contact with the customers, with this responsibility falling instead to suppliers such as workshops: Submit a copy of the procedure for notifying Nordic Ecolabelling about changes to the suppliers that are involved in providing the service.

## O14 Training

All employees must have the knowledge they need to ensure fulfilment of Nordic Ecolabelling's requirements.

If the licensee is not the party that has everyday contact with the customers, with this responsibility falling instead to suppliers such as workshops: All workshop personnel who contribute to the service must be trained in how to ensure

fulfilment of Nordic Ecolabelling's requirements. Specifically, there must be documentation on how the licensee ensures training of the supplier's personnel in the use of approved chemicals, ongoing compliance with the requirement concerning the quality and speed of the cleaning and Nordic Ecolabelling's requirement regarding the processing of electronic waste.

A procedure must be in place to document who has undergone training.

✉ Copy of the procedure for training employees and contractors.

## O15 Customer information

Customers are to be informed that they are using a Nordic Swan Ecolabelled service for the cleaning of liquid damaged electronics and what that entails. Marketing of the service must comply with Nordic Ecolabelling's guidelines on the use of the logo (see "Regulations for the Nordic Ecolabelling of services" below).

If the licensee is not the party that has everyday contact with the customers, with this responsibility falling instead to suppliers such as workshops, it must be explained in the licensee's procedures and sales/marketing material how they guide the suppliers in their use of the logo and the information about the Nordic Swan Ecolabel that they give to their customers.

If the service is limited to only certain types of electronic products (for example only laptops) this should be clearly stated in the marketing.

*A licensee that is not the party that has everyday contact with the customers should enter a dialogue with Nordic Ecolabelling on the options and limitations that apply to the marketing of the service by the suppliers (e.g. workshops).*

✉ Copy of procedure and sales/marketing material describing how the customers are informed.

## O16 Legislation and regulations

The business must ensure compliance with the applicable legislation regarding the working environment, the external environment, finances, hygiene and health. The business must not have any form of negative criticism from an authority or agency which has not been rectified within the deadline set by the supervisory authority or agency. If this requirement is not met, Nordic Ecolabelling may revoke the licence.

✉ Duly signed application form.

And / or

🔑 The requirement is checked on site.

## O17 Follow-up of licence

The licensee must ensure continued compliance with the requirements throughout the validity period of the licence. The business must conduct an internal audit of its operations at least once a year (no more than six months after the closing of accounts). If the licensee is not the party that has everyday contact with the customers, with this responsibility falling instead to suppliers such as workshops, information from these suppliers must be included in the audit.

The following areas are to be checked:

- Fulfilment of the rescue rate requirement
- Fulfilment of the service speed requirement
- Fulfilment of the requirement concerning energy and water consumption by the service
- Only the cleaning chemicals approved under the licence are used in the service
- Electronic waste is processed in line with Nordic Ecolabelling's requirements

- Wastewater testing for heavy metals has been performed for a minimum of two cleaning facilities/machines

Nordic Ecolabelling may request reports from the internal review and examine a selection, or all, of the requirements. Information on a compliance check is given in advance.

✉ Routine for monitoring licence.

# Regulations for the Nordic Ecolabelling of services

To easily identify Nordic Swan Ecolabelled services, the licence number and a descriptive sub text shall always accompany the Nordic Swan Ecolabel.

The descriptive sub text for 108 Cleaning of liquid damaged electronics is: **Cleaning of liquid damaged electronics**

More information on graphical guidelines, regulations and fees can be found at www.nordic-ecolabel.org/regulations/

# Follow-up inspections

Nordic Ecolabelling may decide to check whether licensee or any suppliers in the service, such as workshops carrying out the rescue, fulfils Nordic Ecolabelling requirements during the licence period. This may involve a site visit or random sampling.

The licence may be revoked if it is evident that licensee or any suppliers in the service, such as workshops carrying out the rescue, does not meet the requirements.

Random sampling may also be performed in workshops associated with the license. If the requirements are not met, Nordic Ecolabelling may charge the sampling costs to the licensee.

# Criteria version history

Nordic Ecolabelling adopted version 2.0 of the criteria for Cleaning of liquid damaged electronics on 13 November 2024. The criteria are valid until 31 October 2029.

# New criteria

In a future revision, Nordic Ecolabelling will look more closely at:

- The scope to tighten up the rescue rate requirement.
- The scope to tighten up the requirement concerning how quickly the service is completed, so that it also includes the screening and any replacement of parts.
- Tighter requirements for energy and water consumption.
- The potential for a requirement concerning the transport that is involved in the service.
- Requirements concerning packaging.
- The scope to demanding re-use of chemicals.
- The scope to setting limit values for heavy metals in wastewater.

# Appendix 1 Laboratories and methods for testing and analysis

**General requirements for the testing and analysis laboratory**

The testing and/or analysis laboratory must fulfil the general requirements of standard ISO 17025 for the competence of testing and calibration laboratories or be an official GLP-approved analysis laboratory.

The analysis laboratory/test institute that conducts corrosion testing must be accredited for ISO 9227.

The analysis laboratory/test institute that conducts testing for heavy metals in wastewater must be accredited for EN ISO 11885 or the equivalent national standard.