

Nordic Ecolabelling for  
**Non-rechargeable portable batteries**



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## Contact information

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  
[www.svanemaerket.dk](http://www.svanemaerket.dk)

### Iceland

Ecolabelling Iceland  
[www.svanurinn.is](http://www.svanurinn.is)

### Finland

Ecolabelling Finland  
[www.joutsenmerkki.fi](http://www.joutsenmerkki.fi)

### Norway

Ecolabelling Norway  
[www.svanemarket.no](http://www.svanemarket.no)

### Sweden

Ecolabelling Sweden  
[www.svanen.se](http://www.svanen.se)

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# 1 Environmental communication guideline for Nordic Swan Ecolabel non-rechargeable portable batteries

Nordic Swan Ecolabel non-rechargeable portable batteries have a reduced environmental and climate impact. They meet strict requirements on responsible sourcing, raw materials, energy sources used in production and quality.

Nordic Swan Ecolabel non-rechargeable portable batteries:

- Have a reduced climate impact by being manufactured by at least 10% renewable self-generated or greenfield PPA electricity, supporting the development of renewable energy production. Fossil oil or coal is not allowed in the production.
- Meet quality standards that ensures a long lifetime for the battery.
- Contain lower levels of mercury, cadmium and lead than permitted by legislation, thereby reducing the spread and use of harmful metals.
- Do not contain PVC and have no added PFAS.
- Contain responsibly sourced mineral raw materials and the manufacturers actively address social and environmental risks associated with the sourcing, processing, and trading of these materials throughout the entire supply chain.

Why choose the Nordic Swan Ecolabel?

- The manufacturer of non-rechargeable portable batteries 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 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 reducing the energy use.
- Environmentally suitable operations prepare the manufacturer for potential 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 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.

## 2 What can carry the Nordic Swan Ecolabel?

The product group comprises the following products:

Non-rechargeable portable batteries in accordance with the definition given in the European Union's Battery Regulation (EU) 2023/1542.

The following batteries and electrical appliances cannot be Nordic Swan Ecolabelled according to these criteria:

- Rechargeable batteries, for which separate criteria exist.
- Batteries that are built into or form a permanent part of electronic products and where replacement of the batteries is not possible.
- Car batteries, LMT batteries (Light Means of Transport), SLI batteries (Starting, Lighting, Ignition) and industrial batteries.

## 3 How to read this criteria document

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:

 Upload

 Requirement checked on site

Before a license is issued, the Nordic Ecolabelling organization will normally pay an inspection visit to the applicant and/or the manufacturer. If necessary, multiple inspection visits can be made.

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

## 4 Requirements and justification of these

This section presents all the requirements, including the associated documentation requirements. The appendices referred to in the requirements can be found in the end of the criteria document.

### Definitions

Terms	Definition/Explanation
Button cell	Any small round portable battery or accumulator whose diameter is greater than its height and which is used for special purposes such as hearing aids, watches, small portable equipment and back-up power.
Conflict-affected and high-risk areas	Areas in a state of armed conflict, fragile post-conflict areas, as well as areas witnessing weak or non-existing governance and security, such as

	failed states. In these areas, there are often widespread and systematic violations of international law, including human rights abuses.
DoD	Depth of Discharge.
High, medium or low energy drain level	High energy drain is >500 milliamperes. Medium energy drain is >100<500 milliamperes. Low energy drain is <100 milliamperes.
Li-ion	Lithium-ion.
LMT battery (light means of transport battery)	A battery that is sealed, weighs 25 kg or less and is specifically designed to provide electric power for the traction of wheeled vehicles that can be powered by an electric motor alone or by a combination of motor and human power, including type-approved vehicles of category L.
LPG	Liquefied petroleum gas
mAh or Ah	Milliamp hours or amp hours: the amount of power expected over time. The higher the number, the greater the capacity. This is the electrical charge (current) that passes through a specific circuit in one hour.
MAD	Minimum Average Duration.
Non-rechargeable portable battery	A battery not designed to be electrically recharged (Regulation (EU) 2023/1542). Portable battery of general use' means a portable battery, that is specifically designed to be interoperable and that has one of the following common formats 4,5 Volts (3R12), button cell, D (LR20), C (LR14), AA (LR6), AAA (LR03), AAAA, A23, 9 Volts (PP3);
PVC	PolyVinyl Chloride
Pre- and post-consumer material	Pre- and post-consumer defined in accordance with ISO 14021: Pre-consumer: Material diverted from the waste stream during a manufacturing process. Excluded is reutilization of materials such as rework, regrind or scrap generated in a process and capable of being reclaimed within the same process that generated it. Post-consumer/commercial: Material created by households or commercial, industrial or institutional facilities in the role of end users of a product which can no longer be used for the intended purpose. This includes return of material from the distribution chain.
Primary packaging	Refers to the purchase packaging for the consumer, e.g. the packaging that holds 4 batteries or one portable charger, and what the consumer encounters in sales.
Power purchase agreement (PPA)	A Power Purchase Agreement (PPA) is a long-term electricity purchase contract between an electricity producer and a buyer. The contract specifies the terms of electricity purchase, often including a fixed price over a longer period. <b>Physical PPA:</b> The electricity produced by the generating facility is sold to the consumer and included in their consumption. Physical PPAs are often divided into on-site and off-site. - <b>On-site:</b> Electricity is produced and delivered directly to the site. It does not pass through the grid. This differs from self-generated since it is the producer that owns and operates the system, and the buyer purchases the electricity at a fixed price. - <b>Off-site:</b> The producer delivers renewable electricity to the consumer via the grid. When electricity is purchased through an off-site PPA, the corresponding Guarantees of Origin are typically transferred to the buyer. <b>Greenfield PPA:</b> A PPA is considered "greenfield" when the electricity sales contract is linked to a new renewable energy asset, facilitating the financing and construction of the production facility. These contracts are typically signed prior to the start of project construction, thereby directly supporting the addition of new renewable energy capacity. <b>Brownfield PPA:</b> A PPA is considered "brownfield" when the electricity sales contract is linked to an existing renewable energy asset. These

	contracts typically do not contribute to the development of new renewable energy capacity. <b>Virtual/Financial PPA:</b> This type of PPA is solely financial, meaning no physical delivery of electricity occurs, unlike in physical PPAs.
Secondary packaging	Refers to the transport packaging and protects the packs of batteries and portable chargers during transport to stores and consumers.
SLI battery (starting, lighting and ignition battery)	A battery that is specifically designed to supply electric power for starting, lighting, or ignition and that can also be used for auxiliary or backup purposes in vehicles, other means of transport or machinery.
WEEE	Waste Electrical and Electronic Equipment

## 4.1 Production and product description

### O1 Description of the product

The applicant must submit the following information about the product(s):

- Brand and trading name(s).
- Name and contact details of production location(s) for the manufacturer and brand owner(s) of batteries.
- Description of the product(s), detailing all constituent substances present in the battery in the application (weight %); cathode-and anode materials, electrolyte solutions, conductor-, separator- and container materials and other materials.
- Description of materials used in the primary packaging. Primary packaging: refers to the purchase packaging for the consumer, e.g. the packaging that holds the batteries, and which the consumer encounters in sales.
- Description of the manufacturing process for the product, including a general description of the battery manufacturing process e.g. in a form of flow chart and which technology that is being used to produce the batteries.

↑ Description of the above points. Appendix 1 may be used. A flow chart is recommended to explain the production process.

## 4.2 Resources

### O2 Metal content

The metal content of the battery shall not exceed the following limits:

Metal	Content
Mercury	< 0.1 ppm
Cadmium	< 1.0 ppm
Lead	< 10 ppm

*Note: The EU Battery Regulation (EU) 2023/1542 permits up to 20 ppm cadmium and 5 ppm mercury. Testing for mercury < 0.1 ppm may require specialised laboratory equipment.*

At least four samples per product shall be analysed, and all results must meet the stated limits.

The metal content of the batteries must be analysed in accordance with "Battery Industry Standard Analytical Method. For the determination of Mercury, Cadmium and Lead in

Alkaline Manganese Cells Using AAS, ICP-AES and “Cold Vapour”. European Portable Battery Association (EPBA), Battery Association of Japan (BAJ), and National Electrical Manufacturers Association (NEMA; USA). April 1998”.

- † Similar test methods may be approved if an independent third party has assessed and confirmed them to be equivalent to the recommended method. Report from the analysis body showing the metal content of the batteries.
- † Declaration confirming that the institution performing the analysis is impartial and fulfils the general requirements applicable to test laboratories (see Appendix 6).

### O3 Excluded substances

The following substances must not be present/used in the non-rechargeable portable batteries:

- Chlorine-based plastic, for example PVC
- Per- and polyfluoroalkyl substances (PFAS)\*

*\*PFAS: any substance that contains at least one fully fluorinated methyl (CF<sub>3</sub>-) or methylene (-CF<sub>2</sub>-) carbon atom, with no H/Cl/Br/I attached.*

- † Manufacturer's declaration confirming that the battery contains no chlorine-based plastics and no PFAS. Appendix 2 may be used.

## 4.3 Packaging and information

### O4 Labels and packaging

Battery labels:

- The battery label\* must not contain PVC or other halogenated organic compounds, including flame retardants.

*\*Label refers to the base material, not pigments or printing inks.*

Packaging:

- Primary packaging must consist of ≥ 80 wt% pre- and/or post-consumer material\*\*.
- Chlorine-based plastic must not be used in primary and secondary packaging.
- Primary packaging shall be designed so that all parts (e.g. cardboard, paper, plastic, metal) can be separated for waste sorting without tools. Small antitheft RFID components are excluded from the dismantling requirement.

*\*\*Pre- and post-consumer material is defined in accordance with ISO 14021, see the list of definitions in the beginning of chapter 5.*

- † Declaration from the battery label manufacturer confirming compliance. Appendix 3 may be used.
- † Description of primary and secondary packaging, with declaration from the battery manufacturer or brand owner(s) confirming compliance. Appendix 4 may be used.
- † Documentation from packaging suppliers showing the proportion of pre- and post-consumer recycled material in their products.



- † Declaration from the battery manufacturer or brand owner confirming that the proportion of pre- and post-consumer recycled material in the primary packaging is at least 80 wt%. Appendix 4 may be used.

## O5 Consumer information

The battery must be marked in accordance with IEC 60086 and the battery regulation (EU) 2023/1542.

The primary packaging must clearly state:

- a) The types of energy-intensive appliances for which the battery is recommended in order to secure optimum use from the battery. This information must contain:
    - Information on whether the batteries are suitable for appliances with high, medium, low energy drain or if the batteries are suitable for all types of electrical appliances. The information must be shown with either pictograms or clear visible text.
  - b) Date of manufacture or best before of the batteries (year and month).
  - c) Use of the Nordic Swan Ecolabel according to “Guidelines for using the Nordic Swan Ecolabel”<sup>1</sup>
- † Declaration from the manufacturer of the battery or brand owner(s) showing that the battery is marked in accordance with IEC 60086 and the battery Regulation (EU) 2023/1542. Appendix 5 may be used.
- † Sample of packaging showing compliance with the requirement.

## 4.4 Corporate Social Responsibility

### O6 Responsible sourcing of mineral raw materials

The licensee must:

- have a due diligence management system\* for responsible sourcing of mineral raw materials used in Nordic Swan Ecolabel non-rechargeable portable batteries. This includes the following minerals:
  - cobalt, natural graphite, lithium, nickel and chemical compounds based on these minerals listed in Annex X (EU 2023/1542), and
  - tin, tantalum, tungsten and gold listed in EU Conflict Minerals Regulation (2017/821)<sup>2</sup>.
- have a system for identifying and assessing all smelters'/refiners' due diligence measures. All smelters/refiners must have been verified/in a process of being verified by relevant 3rd party such as the Responsible Mineral Initiative (RMI).
- be member of an established multi-stakeholder program that supports responsible mineral sourcing.

From the 1st of January 2028\*:

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<sup>1</sup> [Marketing guidelines](#)

<sup>2</sup> [https://policy.trade.ec.europa.eu/development-and-sustainability/conflict-minerals-regulation\\_en](https://policy.trade.ec.europa.eu/development-and-sustainability/conflict-minerals-regulation_en)

- The due diligence management system must be reviewed and approved by an independent third party and
- information/summary on due diligence approaches, measures and results must be published annually.

*\* According to the EU Battery Regulation 2023/1542. Description of due diligence management system for responsible sourcing of mineral raw materials.*

- † Documentation showing that all smelters/refiners have been verified/is in a process of being verified by relevant 3rd party such as the Responsible Mineral Initiative (RMI).
- † Documentation of membership in a multi-stakeholder program supporting responsible mineral sourcing.

From the 1. January 2028:

- † Documentation showing that the due diligence management system has been reviewed and approved by an independent third party.
- † Link to or copy of the most recent public report on due diligence approaches, measures, and results.

## 07 Working conditions

The licensee must have a written Code of Conduct that explains how compliance with the following UN conventions and the UN Global Compact is ensured at component and battery suppliers:

- The UN Convention on the Rights of the Child, Article 32.
- The UN Declaration (61/295) on the Rights of Indigenous Peoples.

The UN's: Global Compact<sup>3</sup>, which comprises the following ten principles:

- Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights.
- Principle 2: Make sure that they are not complicit in human rights abuses.
- Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining (ILO Conventions 87 and 98).
- Principle 4: The elimination of all forms of forced and compulsory labour; (ILO Conventions 29 and 105).
- Principle 5: The effective abolition of child labour (ILO Conventions 138 and 182).
- Principle 6: the elimination of discrimination in respect of employment and occupation (ILO Conventions 100 and 111).
- Principle 7: Businesses should support a precautionary approach to environmental challenges.
- Principle 8: Undertake initiatives to promote greater environmental responsibility.
- Principle 9: Encourage the development and diffusion of environmentally friendly technologies.
- Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.

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<sup>3</sup> <http://www.unglobalcompact.org>

The licensee must ensure that all suppliers are familiar with and comply with the Code of Conduct.

*If components and/or batteries are produced in countries in which these conventions are incorporated as part of the requirements of the authorities, no further documentation will be required beyond the signed application form for a licence for Nordic Ecolabelling.*

- † Licensees must submit a written Code of Conduct explaining how suppliers comply with the above UN conventions and the UN Global Compact.
- † A description of how the licensee's Code of Conduct is communicated to all suppliers.

## 4.5 Electrical testing

### O8 Electrical testing

#### Minimum average duration (MAD)

The test conditions under which the batteries are tested must be in accordance with IEC 60086-1.

This requirement encompasses the testing of the operating time in various applications depending on the battery type; see Tables 2-6 below. The tables use the designations in IEC 60086-2.

Each test includes at least 8 batteries per size and model, and all 8 must meet the requirements.

The battery must achieve the minimum permitted operation time specified in Tables 2-6 for the specific battery dimension.

The battery must meet the test requirement for all applications specified in Tables 2-6 for the specific battery dimension. E.g., battery dimension LR20 must fulfil the test requirements for all three tests applications in Table 2 to be approved.

For battery dimensions not matching those in Tables 2-6 (including button cells and specially designed batteries), the following applies:

- If listed in IEC 60086-2: test according to the standard; the result must show  $\geq 50$  % longer operation time than the MAD in the standard.
- If the type/size is not found in IEC 60086-2: contact Nordic Ecolabelling for an internal assessment of applicable operation time requirements.
- If the chemistry differs from alkaline but the size corresponds to one listed in Tables 2-6: the requirements in the table for that size apply.

**Table 1 Household batteries, dimension LR20**

Battery dimension	Application	Load	Daily period	EV (V)	Minimum permitted operating time
LR20	Portable lighting	2,2 $\Omega$	4 min on, 11 min off for 8 h per day	0,9	19,5 h
LR20	Toy	2,2 $\Omega$	1 h	0,8	24 h
LR20	Portable stereo	Current drain 600 mA	2 h	0,9	17 h

**Table 2 Household batteries, dimension LR14**

Battery dimension	Application	Load	Daily period	EV (V)	Minimum permitted operating time
LR14	Toy	3,9 $\Omega$	1 h	0,8	21 h
LR14	Portable lighting	3,9 $\Omega$	4 min on, 11 min off for 8 h per day	0,9	19 h
LR14	Portable stereo	Current drain 400 mA	2 h	0,9	13 h

**Table 3 Household batteries, dimension LR6**

Battery dimension	Application	Load	Daily period	EV (V)	Minimum permitted operating time
LR6	Digital still camera	1500 mW 650 mW	*	1,05	70 pulses
LR6	Portable lighting	3,9 $\Omega$	4 min on, 56 min off for 8 h per day	0,9	370 min
LR6	Motor/toy	3,9 $\Omega$	1 h	0,8	7,5 h
LR6	Toy, non-motorized	250 mA	1 h	0,9	8 h
LR6	CD, digital audio, wireless gaming and accessories	100 mA	1 h	0,9	24 h
LR6	Radio/clock/remote control	50 mA	1 h on, 7 h off for 24 h per day	1,0	47,5 h
*According to part 6.1.4 in IEC 60086-2.					

**Table 4 Household batteries, dimension LR03**

Battery dimension	Application	Load	Daily period	EV (V)	Minimum permitted operating time
LR03	Portable lighting	5,1 $\Omega$	4 min on, 56 min off for 8 h per day	0,9	3,5 h
LR03	Toy	5,1 $\Omega$	1 h	0,8	190 min
LR03	Digital audio	50 mA	1 h on, 11 hr off for 24 h	0,9	19 h
LR03	Remote control	24 $\Omega$	15 s per min 8 h per day	1,0	21 h

**Table 5 Household batteries, dimension 6LR61/LF22**

Battery dimension	Application	Load	Daily period	EV (V)	Minimum permitted operating time
6LR61	Toy	270 $\Omega$	1 h	5,4	21 h
6LR61	Clock radio	620 $\Omega$	2 h	5,4	47 h
6LR61	Smoke detector*	Background: 10 k $\Omega$ Pulse: 0,62 k $\Omega$	1 s on, 3599 s off for 24 h day*	7,5	20 days
*According to part 6.6.8 in IEC 60086-2.					

**Leakage**

During testing, no leakage may occur.

*The requirements concerning test laboratories and test instructions for operation time (MAD) and leakage are stated in Appendix 6.*

- ↑ Complete test report showing that the batteries were tested in accordance with IEC 60086-1 and met both MAD and leakage requirements.
- ↑ Documentation showing that the test laboratory fulfils the requirements in Appendix 6. Independent competent third party must confirm that the testing was carried out in line with this requirement.

**O9 Delayed discharge performance (shelf life)**

The battery must achieve a delayed discharge performance of at least 90% of the specific MAD limit in O8 for the relevant battery dimension and application, after 4 weeks of high-temperature storage according to IEC 60086-1. Each test includes at least 8 batteries per size and model, and all 8 must meet the requirements.

*If the manufacturer or licensee has not completed a delayed discharge test for a new battery design/chemistry at the time of application, the licensee shall submit a plan specifying when the test started/will start and when it is expected to be completed. The requirements concerning test laboratories are stated in Appendix 6.*

- ↑ Complete test report.
- ↑ Documentation showing that the test laboratory fulfils the requirements stated in Appendix 6. Independent competent third party must confirm that the testing has been carried out in line with the requirement.
- ↑ If the test is not completed at the time of application: The licensee must present a specific plan for performing delayed discharge performance tests for the relevant batteries. Once the test is completed, the test report must be submitted to Nordic Swan Ecolabel.

## 4.6 Safety

### O10 Lithium batteries, safety

Lithium batteries must fulfil the testing requirements in IEC 60086-4.

*The requirements concerning test laboratories are stated in Appendix 6.*

- ↑ Complete test report.
- ↑ Documentation showing that the test laboratory fulfils the requirements stated in Appendix 6.

## 4.7 Waste plan

### O11 Waste sorting in the production process

A waste plan for sorting waste generated in the production process must be submitted. The plan must as a minimum include:

- Overview of all waste fractions in production. The plan must specify discarded batteries and discarded semi-manufactured batteries.
- Description of how each waste fraction is handled during the production and after delivery (landfill, incineration, waste treatment, material recycling).
- Name and address of the business/organisation(s)/authority (authorities) that collect/receive the waste.

Discarded batteries and discarded semi-manufactured batteries (e.g. unsealed cans) must be collected and sent for recycling. Documentation must be submitted as a declaration from the collector/recipient confirming that these have been sent for material recycling.

*Exception: If national regulations prohibit recycling of discarded batteries or discarded semi-manufactured batteries, the licensee must:*

- *describe and document the applicable national regulations*
- *describe how discarded semi-manufactured batteries are handled*

- ↑ Waste plan as described in the requirement.
- ↑ Declaration from collector/recipient confirming that discarded batteries and semi-manufactured batteries are sent for material recycling.
- ↑ If recycling of discharged semi-manufactured batteries is prohibited by national regulation: provide documentation of the regulation and description of how discarded semi-finished batteries are handled.

## 4.8 Energy in production

### O12 Energy consumption

Energy consumption data for each energy source must be reported for each production site\* handling Nordic Swan Ecolabelled non-rechargeable portable batteries.

*\* From gate to gate (phase A3 in EPDs) in all factories (manufacturing, packaging, etc.) handling Nordic Swan Ecolabelled non-rechargeable portable batteries. All energy use shall be reported (production, heating of buildings etc.) regardless of the proportion that is dedicated to manufacturing Nordic Swan Ecolabel non-rechargeable portable batteries. Internal logistics (e.g. forklifts) and facility operations (e.g. canteens) are included. Upstream/downstream processes (e.g. raw material production, distribution to retailers) are excluded.*

- ↑ Completed reporting sheet (available on Nordic Ecolabelling's websites).
- ↑ Documentation confirming purchased/generated energy from the last 12 months (e.g. invoices or similar documents).

### O13 Energy source - fossil fuels

The licensee must ensure the fulfilment of the following:

1. Fossil oil and coal are not allowed\* as energy source in the production\*\* of non-rechargeable portable batteries.
2. A maximum of 15% of the total energy consumption for the production\*\* of non-rechargeable portable batteries may originate from natural gas.

Calculation of the share of energy coming from natural gas must be done as follows:

$$\text{Share of natural gas} = \frac{\text{Total energy consumption from natural gas (all factories)}}{\text{Total energy consumption (all factories)}} *$$

If natural gas is used, the applicant must also work actively with energy savings by either:

- Being certified according to ISO 50001 or
- Being certified according to ISO 50002 or
- Being certified according to ISO 14001 (must contain an energy review corresponding to part 6.3 of ISO 50001 upon recertification) or
- Have undergone an audit according to EN 16247 within the last 3 years.

*\* Fossil fuel used for transport or potential backup emergency systems are excluded from the requirement. Grid electricity and district heating and their associated energy sources are excluded from the requirement.*

*\*\* From gate to gate (phase A3 in EPDs) in all factories (manufacturing, packaging, etc.) handling Nordic Swan Ecolabelled non-rechargeable portable batteries. Upstream/downstream processes (e.g. raw material production, distribution to retailers) are excluded.*

- ↑ Confirmation that no fossil oil or coal are used in the production (use reporting sheet from requirement O12).
- ↑ Calculated share of natural gas (use reporting sheet from requirement O12).
- ↑ If natural gas is used in the battery production: valid certificate or audit report.

### O14 Renewable electricity

At least 10% of the total annual electricity consumption for the manufacturing and packaging of batteries must originate from renewable\* electricity generation. Acceptable alternatives

include self-generated renewable electricity, physical on-site PPA\*\* and physical off-site greenfield PPA established within the same electricity market region.

Calculation of the share of renewable electricity must be done as follows:

$$\text{Share of renewable electricity} = \frac{\text{Total renewable electricity generation (all factories) ***}}{\text{Total electricity consumption (all factories) ****}}$$

*\*Renewable electricity generation includes for example solar PV, wind power, or other renewable energy sources.*

*\*\* Power purchase agreement (PPA). See definition for information regarding physical greenfield off-site respectively on-site PPA.*

*\*\*\* Total annual renewable electricity generation across all factories (manufacturing, packaging etc.) handling any Nordic Swan Ecolabel non-rechargeable portable batteries. Upstream/downstream processes (e.g. raw material production) are excluded. If PPA is used, the generated electricity dedicated to the licensee should be used.*

*\*\*\*\* Total annual electricity consumption across all factories (manufacturing, packaging etc.) handling any Nordic Swan Ecolabelled non-rechargeable portable batteries. Upstream/downstream processes (e.g. raw material production) are excluded.*

- ↑ If relevant, description and location of the on-site renewable electricity installation.
- ↑ If relevant, copy of the valid PPA contract, including project information (solar, wind, etc.), location, estimated generated volume, validity period, status of the project when signed and planned commercial operation date (COD).
- ↑ Total electricity consumption (use reporting sheet from requirement O12).
- ↑ Annual electricity generation (use reporting sheet from requirement O12). If the installations are less than one year old, estimated annual electricity generation data (MWh/year) must be reported.

## 4.9 Licence maintenance

The purpose of the licence maintenance is to ensure that fundamental quality assurance is dealt with appropriately.

### O15 Customer complaints

The licensee must guarantee that the quality of the Nordic Swan Ecolabel product does not deteriorate during the validity period of the licence. Therefore, the licensee must keep an archive over customer complaints.

Note that the original routine must be in one Nordic language or in English.

- ↑ Upload your company's routine for handling and archiving customer complaints.

### O16 Traceability

The licensee must be able to trace the Nordic Swan Ecolabel products in the production. A manufactured / sold product should be able to trace back to the occasion (time and date)



and the location (specific factory) and, in relevant cases, also which machine / production line where it was produced. In addition, it should be possible to connect the product with the actual raw material used.

You can upload your company's routine or a description of the actions to ensure traceability in your company.

↑ Please upload your routine or a description.

## 5 Criteria version history

Nordic ecolabelling adopted version 6.0 of the Non-rechargeable portable batteries on 14 January 2026. The criteria are valid until 31 October 2030

## 6 Future criteria generation

As part of any future evaluation of the criteria, it will be relevant to consider the following:

- Banning natural gas in the production of batteries.
- Higher share of renewable energy in production of batteries.
- Absolute limit of energy consumption per produced battery cell.
- Performance.

## 7 How to apply and regulations for the Nordic Ecolabelling

### **Application and costs**

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

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

### **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 prolonged or adjusted, in which case the licence is automatically prolonged, 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.

### **Responsibility for Compliance with Applicable Legislation**

When applying for the Nordic Swan Ecolabel, the applicant/licensee confirms compliance with all current regulatory requirements related to both the exterior and interior environment in connection with the production and handling of the product(s) covered by the application.

Furthermore, the applicant declares that all applicable regulatory requirements within the Nordic region are met for the product(s). Compliance with these regulations is a prerequisite for obtaining a license.

### **On-site inspection**

In connection with handling of the application, Nordic Ecolabelling normally conduct on-site inspection visit/-s to ensure adherence to the requirements. Scope and timing of on-site inspection is evaluated per product group and adapted to the specific application situation.

### **Queries**

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

### **Follow-up inspections**

Nordic Ecolabelling may decide to check whether non-rechargeable portable batteries fulfil Nordic Ecolabelling 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 products 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.

### **Regulations for the Nordic Ecolabelling of products**

When the Nordic Swan Ecolabel is used on products the licence number shall be included.

More information on graphical guidelines, regulations and fees can be found at

[www.nordic-swan-ecolabel.org/regulations](http://www.nordic-swan-ecolabel.org/regulations)

## Appendix 1      Description of the non-rechargeable portable battery, material composition and production (O1)

This declaration is based on the knowledge we have at the time of the application, based on tests and/or declarations from raw material manufacturers, with reservations for new advances and new knowledge. Should such new knowledge arise, the undersigned is obliged to submit an updated declaration to Nordic Ecolabelling.

Product: Brand/trading name(s):	
Name and contact details of production location(s) for the manufacture and brand owner(s) of batteries:	

For each battery type, detailing list of all constituent substances present the battery in the application (weight %); cathode-and anode materials, electrolyte solutions, conductor-, separator- and container materials and other materials.

<b>Product name:</b>		
<b>Cathode materials:</b> Substance and CAS nr.:	<b>Concentration of total weight-%</b>	<b>Function:</b>
<b>Anode materials:</b> Substance and CAS nr.:		
<b>Electrolyte solutions:</b> Substance and CAS nr.:		
<b>Conductor:</b> Substance and CAS nr.:		
<b>Separator:</b> Substance and CAS nr.:		
<b>Other materials:</b> Substance and CAS nr.:		

<b>Container:</b> Substance and CAS nr.:		
<b>Battery label:</b> Substance and CAS nr.:		

Description of materials used in the primary packaging:

*Primary packaging: refers to the purchase packaging for the consumer, e.g. the packaging that holds 4 batteries, and which the consumer encounters in sales.*

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Description of manufacturing process of the product:

*Nordic Ecolabelling wants a general description of the batteries manufacturing process and which technology that is being used to produce the batteries. A flow chart is recommended to explain the production process:*

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Applicant's or manufacturer's signature:

Place and date	Company name
Responsible person	Responsible persons signature
Telephone number	E-mail

## Appendix 2 Excluded substances (O3)

Name of the manufacturer of the battery:	
Name/type of non-rechargeable portable battery/-batteries:	

This declaration is based on the best available knowledge at the time of the application, including test results and/or declarations from raw material manufacturers. It is subject to change if new information or scientific findings become available. In such cases, an updated declaration must be submitted.

I hereby declare that:

- chlorine-based plastic (PVC) is not used in the non-rechargeable portable battery/-batteries.
- per- and polyfluoroalkyl substances (PFAS) are not used in the non-rechargeable portable battery/-batteries.

Battery manufacturer's signature:

Place and date	Company name
Responsible person	Responsible persons signature
Telephone number	E-mail

## Appendix 3      Battery label (O4)

Type of battery (e.g. AAA or AA): Materials in the battery label:	
Name of the manufacturer of the battery label:	

I hereby declare that the battery label\* does not contain PVC or other halogenated organic compounds in general (including flame retardants).

*\* The label itself, not any pigment or inks used for printing on the label.*

Battery label manufacturer's signature:

Place and date	Company name
Responsible person	Responsible persons signature
Telephone number	E-mail

## Appendix 4 Packaging (O4)

Name of the manufacturer of the battery or brand owner:	
Name/type of non-rechargeable portable battery/-batteries:	

### Definitions:

*Primary packaging: refers to the purchase packaging for the consumer, e.g. the packaging that holds four batteries, and which the consumer encounters in sales.*

*Secondary packaging: refers to the transport packaging and protects the packs of batteries during transport to stores and consumers.*

*Post-consumer material is defined in accordance with ISO 14021: "Post-consumer/commercial" is defined as material created by households or commercial, industrial or institutional facilities in the role of end users of a product, which can no longer be used for the intended purpose. This includes return of material from the distribution chain.*

Description of materials used in the primary and secondary product packaging:

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I hereby declare that:

- the total proportion of pre- and post-consumer recycled material in the primary packaging for the batteries is at least 80% by weight.
- chlorine-based plastic is not used in the primary and secondary product packaging.
- the primary packaging is designed in such a way that dismantling is possible for all individual parts for waste sorting (e.g. cardboard, paper, plastic, metal) without using any tools.

*Small antitheft RFID components are excluded from the dismantling requirement.*

Battery manufacturer's or brand owner's signature:

Place and date	Company name
Responsible person	Responsible persons signature
Telephone number	E-mail

## Appendix 5      Consumer information on the battery (O5)

Name of the manufacturer of the battery or brand owner:	
Name/type of non-rechargeable portable battery/-batteries:	

I hereby declare that the battery is marked in accordance with IEC 60086 and the battery Regulation (EU) 2023/1542.

Battery manufacturer's or brand owner's signature:

Place and date	Company name
Responsible person	Responsible persons signature
Telephone number	E-mail



## Appendix 6 Analysis and testing laboratories (O2, O8, O9, O10)

Testing of quality specifications must be performed by laboratories, which are accredited to the current standard and fulfil the general requirements in the standard EN ISO/IEC 17025 or have official GLP status. A non-accredited laboratory may perform tests if the laboratory has applied for accreditation according to the current testing method, but has not yet been granted approval, or if accreditation is not available for the technical specification or proposed standard. In such case, the laboratory must prove that it is an independent, competent laboratory.

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

- Sampling and analysis are monitored by the authorities; or
- The manufacturer's quality assurance system covers analyses and sampling and is certified to ISO 9001; 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.