

BLUE ANGEL

The German Ecolabel



Garden tools

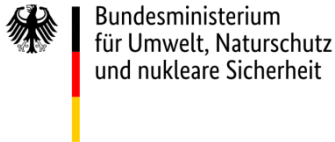
DE-UZ 206

Basic Award Criteria

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The environmental label is supported by the following institutions:



Bundesministerium
für Umwelt, Naturschutz
und nukleare Sicherheit

The Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (Bundesministerium für Umwelt, Naturschutz und nukleare Sicherheit) is the owner of the label. It regularly provides information on the decisions taken by the Environmental Label Jury.



Umwelt
Bundesamt

The German Environment Agency with its specialist department for "Ecodesign, Eco-Labeling and Environmentally Friendly Procurement" acts as office of the Environmental Label Jury and develops the technical criteria of the Basic Criteria for Award of the Blue Angel.



Jury
Umweltzeichen

The Environmental Label Jury is the independent, decision-making body for the Blue Angel and includes representatives from environmental and consumer associations, trade unions, industry, the trade, crafts, local authorities, academia, the media, churches, young people and the German federal states.



RAL gGmbH is the awarding body for the environmental label. It organises the process for developing the relevant award criteria in independent, expert hearings – which involve all relevant interest groups.

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1 Introduction

1.1 Preface

In cooperation with the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, the German Environment Agency and considering the results of the expert hearings conducted by RAL gGmbH, the Environmental Label Jury has set up these Basic Criteria for the Award of the Environmental Label. RAL gGmbH has been tasked with awarding the Environmental Label.

Upon application to RAL gGmbH and on the basis of a Contract on the Use of the Environmental Label to be concluded with RAL gGmbH, the permission to use the Environmental Label may be granted to all products, provided that they comply with the requirements as specified hereinafter.

The product must comply with all the legal requirements in the country in which it is to be marketed. The applicant shall declare that the product meets these conditions.

1.2 Background

In areas worthy of protection (e.g. residential and recreation areas), many affected people consider noise generated by equipment for gardening and landscaping (hereinafter called garden tools) to be significant noise pollution. The objective of awarding the environmental label to low-noise and low-pollution garden tools is thus primarily to reduce noise emissions.

The Blue Angel environmental label identifies those garden tools with state-of-the-art noise reduction technology that have noise emissions below the legal requirements. As combustion engine powered tools with the latest technical features do not meet the necessary requirements for the award of the environmental label, these tools are no longer contained within the scope of the latest Basic Award Criteria. Specific noise requirements for tools with electric motors (mains or battery powered) are valid in each case.

In addition, the garden tools awarded with the Blue Angel ecolabel must also comply with other important product criteria. For example, the use of substances harmful to the environment and human health in the materials used for the tools must – as far as technically possible – be excluded. Battery-powered tools must use rechargeable batteries that are low in pollutants and have a long service life.

1.3 Objective of the environmental label

The Blue Angel environmental label for garden tools may be awarded to products featuring the following environmental properties:

- Particularly low noise emissions
- Long battery life and availability of replacement rechargeable batteries
- Reduced level of harmful substances in the rechargeable batteries
- Tool materials low in pollutants
- Durable, easy to repair and recyclable design

Therefore, the following benefits for the environment and health are stated in the explanatory box:

For battery-powered tools:

- Low noise
- Durable and high-quality rechargeable batteries
- Low level of harmful materials

For corded tools:

- Low noise
- Durable
- Low level of harmful materials

1.4 Compliance with legal requirements

The observance of relevant existing laws and legal requirements is a prerequisite for those products awarded with the environmental label. In particular, the following legal requirements must be observed:

- The German Equipment and Machinery Noise Prevention Ordinance (Geräte- und Maschinenlärmschutzverordnung) (32nd BImSchV) for the implementation of EU Directive 2000/14/EC (Outdoor Directive)
- The German Product Safety Act (ProdSG) for the implementation of EU Directive 2006/42/EC (Machinery Directive – until January 2027)
- The new European Machinery Regulation – Regulation (EU) 2023/1230 on machinery (from January 2027)
- Regulation (EU) 2023/1542 of the European Parliament and of the Council concerning batteries and waste batteries (new Battery Regulation)
- The Battery Directive (BattG)
- EU Directive 2006/66/EC (Battery Directive - until August 2025)
- Commission regulation (EU) No. 1103/2010 for defining the rules for labelling the capacity of rechargeable batteries
- The German Electrical and Electronic Equipment Act (ElektroG) and the German Material Ordinance for Electrical and Electronic Equipment (ElektroStoffVO) for the implementation of EU Directive 2012/19/EC (WEEE Directive) and 2011/65/EU (ROHS Directive)
- The substance requirements defined by the EU Chemicals Regulation REACH (1907/2006/EC) and Regulation (EC) No. 1272/2008
- Occupational safety regulation on noise and vibration (LärmVibrationsArbSchVEinfV 2007)

2 Scope

These Basic Award Criteria apply to the following tools with electric motors (mains or battery powered) for gardening and landscaping:

Chain saws, hedge trimmers, lawnmowers, electric scythes, trimmers and brush cutters, scarifiers, shredders and pole pruners.

Definitions of the tools can be found in Appendix B to the Basic Award Criteria.

Modular tools (drive unit + replaceable tools) can also be labelled with the environmental label if all of the tool combinations applied for comply with the requirements.¹ Individual tool units (tools without a rechargeable battery) can also be certified with the Blue Angel if a compatible rechargeable battery that complies with the requirements for rechargeable batteries is clearly recommended and named.

3 Requirements

The garden tools named under Paragraph 2 can be labelled with the environmental label illustrated on the first page of these Basic Award Criteria if they comply with the following requirements.

3.1 Noise emissions

The evaluation of noise emissions for garden tools that come under the scope of these Basic Award Criteria is based on the labelling² of the A-weighted sound power level in dB according to Article 11 of Directive 2000/14/EC. The A-weighted sound power level L_{WA} (guaranteed) must be determined and stated as an individual noise emission value in accordance with the tool-specific testing methods stated in Table 1. The labelled A-weighted sound power level L_{WA} must not exceed the relevant test value stated for each tool in Table 1.

Table 1: Test values for the operating noise of garden tools

Type of garden tool	Tool-specific testing method	Test value for the guaranteed A-weighted sound power level L_{WA} in dB
Chain saws (including pole pruners) Cutting length < 20 cm Cutting length > 20 cm	DIN EN 62841-4-1	96 100
Hedge trimmers (including long-reach hedge trimmers)	DIN EN 62841-4-2	93
Lawnmowers Cutting width < 40 cm Cutting width > 40 cm	DIN EN IEC 62841-4-3	88 93

¹ The scope may be expanded in this regard if ratified by the Environmental Label Jury.

² Labelling of the guaranteed sound power level is described in Annex IV of Directive 2000/14/EC.

Type of garden tool	Tool-specific testing method	Test value for the guaranteed A-weighted sound power level L_{WA} in dB
Trimmers, scythes and brush cutters	DIN EN 50636-2-91	93
Scarifiers	EN IEC 62841-4-7	92
Shredders	DIN EN 50434	92

Compliance verification:

The applicant shall declare compliance with the requirements in Annex 1, submit a test report from a testing institution accredited for the corresponding process in accordance with ISO 17025 or from a testing institution (notified body) according to Article 15 of 2000/14/EC (Annex 2) and confirm the labelling of the guaranteed A-weighted sound power level in Annex 3 in accordance with Article 11 of Directive 2000/14/EC (e.g. in the form of a photo).

3.2 Requirements for batteries (rechargeable batteries)

These requirements exclusively refer to rechargeable batteries that are either components of or replacement parts for battery-powered garden tools. If battery-powered garden tools are offered without a rechargeable battery, these criteria refer to the rechargeable battery recommended for use with the certified garden tool by the supplier.

3.2.1 Removability, replaceability and interoperability of the rechargeable batteries

3.2.1.1 Standardisation and interoperability

The rechargeable battery must be usable in every battery-powered tool in the product family offered by the manufacturer.

The charging device for the certified garden tool must be compatible with all rechargeable batteries and tools in the same product family offered by the manufacturer. A product family can be a selection of tools that place the same requirements on the associated rechargeable battery. Product families may differ, for example, based on the required performance or the capacity of the rechargeable battery.

Users should be able to easily find information on those tools that are compatible with the rechargeable battery.

Compliance verification:

The applicant shall declare compliance with the requirements in Annex 1 and submit the corresponding pages of the product documentation or a corresponding link to the manufacturer's website on which the tools compatible with the rechargeable battery are listed (Annex 13).

3.2.1.2 Reduced scope of delivery

Customers must have the opportunity to purchase the tool without a rechargeable battery and charging device.

Compliance verification:

The applicant shall declare their compliance with the requirements and refer to the corresponding places (e.g. manufacturer's website/online shop/catalogue) where the tools can be purchased without accessories (Annex 1).

3.2.1.3 Removability

It must be possible for the end user to remove or separate the rechargeable battery from the tool without damaging it in order to replace it. The tools must not be damaged by removing the rechargeable battery.

Compliance verification:

The applicant shall declare compliance with the requirements in Annex 1 and submit the corresponding pages of the product documentation in Annex 13.

3.2.2 Testing the capacity of the rechargeable battery (rated capacity)

The battery capacity stated by the manufacturer must not be less than 100% of the rated capacity of the rechargeable battery. The rated capacity of the rechargeable batteries must be determined in accordance with the currently valid version of the EN 61960 standard based on the first discharging/charging cycle (discharged at 0.2 amperes) in accordance with Section 7.3.1 "Discharge performance at 20 °C (rated capacity)" for three rechargeable batteries (according to EN 61960 Table 4 "Sample size"). The required steps in the standard may be repeated up to four times to fulfil the requirements.

Compliance verification:

The applicant shall declare compliance with the requirement in Annex 1 and submit a test report as Annex 5 verifying that three rechargeable batteries have been analysed and all three comply with the requirements.

The test report must be completed by a testing laboratory that fulfils the requirements for the competence of testing and calibration laboratories according to DIN EN ISO/IEC 17025. Test reports completed by the applicant are recognised as being of an equivalent standard when the testing laboratory used for the measurements is accredited by an independent body as an SMT laboratory (supervised manufacturer testing laboratory).

3.2.3 Low level of self-discharge (charge retention)

The rechargeable batteries must have a low level of self-discharge. Three different rechargeable batteries (according to the regulations for the "Sample size" in EN 61960) must be tested in accordance with the test conditions stated in the next paragraph. Following these tests, the batteries must still have at least 90 % of the rated capacity that was determined after the conditioning cycles. All three of the rechargeable batteries tested must comply with the requirements for the test process.

Test conditions: The self-discharge of the sample batteries must be tested in accordance with the conditions specified in the EN 61960 standard. However, a higher ambient temperature of 40°C +/-2°C should be used for the tests. Rechargeable batteries featuring an automatic discharge function must be tested for their charge retention after the automatic discharge.

Compliance verification:

The applicant shall declare compliance with the requirement in Annex 1 and submit a test report in accordance with EN 61960 (Annex 6) verifying that three batteries have been analysed and all three comply with the requirements. During the test, the rechargeable battery should be stored (separately or connected to the tool) in accordance with its expected use or as described in the product documentation.

The test report must be completed by a testing laboratory that fulfils the requirements for the competence of testing and calibration laboratories according to DIN EN ISO/IEC 17025. Test reports completed by the applicant are recognised as being of an equivalent standard when the testing laboratory used for the measurements is accredited by an independent body as an SMT laboratory (supervised manufacturer testing laboratory).

3.2.4 Durability of the rechargeable batteries

Warranty cover

The applicant obligates themselves to provide the following warranties on the rechargeable batteries.

- For **professional tools**³: at least 36 months from the date of purchase. The residual capacity of the rechargeable battery must still be at least 70% of the rated capacity after 36 months.
- For **hobby tools**: at least 24 months from the date of purchase. The residual capacity of the rechargeable battery must still be at least 70% of the rated capacity after 24 months.

The applicant can make the warranty services subject to the user's compliance with the intended use of its rechargeable batteries. The product documentation must contain corresponding information on the terms and conditions of the warranty.

Alternative to a warranty

Alternatively, the applicant can verify the durability of the rechargeable battery by testing its endurance in cycles (according to the IEC 61960-3:2017 standard):

- **Professional tools** must achieve a minimum of 1200 full charge cycles.
- **Hobby tools** must achieve a minimum of 500 full charge cycles.

After completing the full charge cycles stated above, the rechargeable batteries must have a remaining capacity (Q_{Rem}) of at least 80% of the nominal capacity (N).

$$Q_{\text{Rem}} \geq 80\% * N$$

Calculation of the full charge cycles and measurement of the remaining capacity must be carried out in accordance with the requirements in Appendix D.

³ Tools that are described as such at the point of sale and which are designed for intensive use. These tools are typically called professional or expert tools or tools for commercial use.

Compliance verification

The applicant shall declare compliance with the requirements in Annex 1 and submit the relevant product documentation (Annex 13).

If the alternative requirement has been utilised, the applicant shall submit the report on the endurance test for a minimum of three batteries tested according to Appendix D as Annex 4. The test report must document the numbers of full charge cycles achieved by the batteries, as well as the remaining capacities recorded at the end of the tests.

The test report must be completed by a testing laboratory that fulfils the requirements for the competence of testing and calibration laboratories according to DIN EN ISO/IEC 17025. Test reports completed by the applicant or the battery manufacturer are recognised as being of an equivalent standard when the testing laboratory used for the measurements is accredited by an independent body as an SMT laboratory (supervised manufacturer testing laboratory).

In addition, the applicant shall state in Annex 1 to the contract the minimum number of full charge cycles achievable by the battery, mark the corresponding sections of the product documentation and submit the relevant pages of the product documentation as Annex 13 the contract.

3.2.5 Replacement rechargeable batteries

The applicant undertakes to guarantee the provision of spare rechargeable batteries (subsequent purchase) for at least 5 years following the termination of production and to ensure that the end user is informed in the product documentation about the possibility of purchasing a replacement rechargeable battery and how to purchase it.

Compliance verification:

The applicant shall declare compliance with the requirements in Annex 1 and submit the relevant product documentation (Annex 13).

3.2.6 Heavy metal content

The heavy metal content of the rechargeable batteries must not exceed the values stated in Table 2:

Table 2: Permissible concentrations of heavy metals in the rechargeable batteries

Metal	Concentration
Mercury	≤ 0.5 ppm
Cadmium	≤ 20 ppm
Lead	≤ 100 ppm

Compliance verification:

The applicant shall declare compliance with the requirements in Annex 1 and submit a test report verifying that at least four rechargeable batteries (for the relevant type of tool) have been analysed and all four comply with the requirements (Annex 7).

The metal contents should be determined based on the methods in: "Überprüfung der Quecksilber-, Cadmium- und Blei-Gehalte in Batterien. Analyse von Proben handelsüblicher Batterien

und in Geräten verkaufter Batterien. Erstellung eines Probenahmeplans, Probenbeschaffung und Analytik“ (Testing the content of mercury, cadmium and lead in batteries. Analysis of samples of standard batteries and batteries sold in devices. Devising a sampling plan, sample procurement and analysis) from the Federal Institute for Materials Research and Testing (BAM), November 2011, or the "Battery Industry Standard Analytical Method - for the determination of Mercury, Cadmium and Lead in Alkaline Manganese Cells Using AAS, ICP-AES and Cold Vapour". Publishers: The European Portable Battery Association (EPBA), the Battery Association of Japan (BAJ), the National Electrical Manufacturers Association (NEMA; USA), April 1998. The test report must be completed by a testing laboratory that fulfils the requirements for the competence of testing and calibration laboratories according to DIN EN ISO/IEC 17025 or is accredited by an independent body as an SMT laboratory (supervised manufacturer testing laboratory).

3.2.7 Guaranteeing the take back of old rechargeable batteries

The applicant must declare that they fulfil the statutory registration and take back obligations of the manufacturer of the batteries.

Compliance verification:

The applicant shall declare compliance with the requirements in Annex 1 and state the registration number of the battery manufacturer as verification of their registration in the Used Electronic Appliances Register (Elektro-Altgeräte Register) (Batt-Reg.-No. DE).

3.2.8 General safety requirements for the rechargeable battery system

The rechargeable battery, as well as the cells used, must fulfil all of the applicable test requirements according to the Battery Safety Standard EN/IEC 62133.

The rechargeable battery must comply with the test requirements in the currently valid version of the UN 38-3 standard.

Compliance verification:

The applicant shall declare compliance with the requirements in Annex 1 and submit a corresponding test report stating the testing method used (Annex 8).

The testing laboratory must be accredited according to DIN EN ISO/IEC 17025. Test reports completed by the applicant are recognised as being of an equivalent standard when the testing laboratory used for the measurements is accredited by an independent body as an SMT laboratory (supervised manufacturer testing laboratory).

3.2.9 No load power consumption of the charging device

The no load⁴ power consumption of the charging device must comply with the following values:
≤ 1.0 watts

⁴ In accordance with the External Power Supplies Directive (EC) No. 2019/1782, "no load" describes a condition in which the input of an external power supply is connected to the mains power source, but the output is not connected to any primary load.

Compliance verification:

The applicant shall declare compliance with the requirement in Annex 1 and submit a test report according to the External Power Supplies Directive (EC) 2019/1782 (Annex 9). The no load power consumption is to be measured over a time period of 10 minutes. The measurements are to be carried out with a mains supply voltage of 230V ± 1%.

The testing laboratory must be accredited according to DIN EN ISO/IEC 17025. Test reports completed by the applicant are recognised as being of an equivalent standard when the testing laboratory is accredited by an independent body as an SMT laboratory (supervised manufacturer testing laboratory).

3.2.10 Protection against over-discharging and deep discharging of the rechargeable battery

The rechargeable battery must be protected against over-discharging and deep discharging. The test must be carried out in accordance with EN 60335-2-29 on the relevant combination of charging device and rechargeable battery.

Compliance verification:

The applicant shall declare compliance with the requirements in Annex 1 and submit a corresponding test report (Annex 10).

The testing laboratory must be accredited according to DIN EN ISO/IEC 17025. Test reports completed by the applicant are recognised as being of an equivalent standard when the testing laboratory used for the measurements is accredited by an independent body as an SMT laboratory (supervised manufacturer testing laboratory).

3.2.11 Charging status indicator

The charging status must be indicated on either the rechargeable battery, tool or the charging device (with at least three charging levels – low, medium, high). This will enable users to, in particular, store the rechargeable battery at a medium charging level so that it has a longer service life.

Compliance verification:

The applicant shall declare compliance with the requirements in Annex [No.] and submit the corresponding sections of the product documentation (Annex 13) that explain where the charging status indicator can be found and how it works.

3.3 Other requirements for all tools

The following requirements generally apply to all product groups and tools that come under the scope of these Basic Award Criteria.

3.3.1 Take back of old tools

The following applies to waste equipment or tools from private households according to § 3 No. 5 of the Electrical and Electronic Equipment Act (ElektroG):

If the manufacturer or his authorised representative is not also the seller who has an obligation to take back waste electrical equipment according to § 17 ElektroG, the manufacturer or his

authorised representative must utilise the voluntary option of taking back waste equipment free of charge according to § 16 (5) ElektroG, at least for waste equipment from their own brands.

Compliance verification:

The applicant shall declare compliance with the requirement in *Annex 1 and describe – as also published in the enclosed product documentation and on its website – how end users can return their waste equipment.*

3.3.2 Recyclable design of the products

The tools must comply with the principles of a recyclable design. This covers the following attributes:

- Housing parts (> 25g) manufactured out of plastics must be made out of a uniform polymer (homopolymer or copolymer) so that they can be recycled using existing technologies for the production of high-quality and long-lasting industrial products. Polymer blends (polymer alloys) are permitted.⁵
- Easy repairability/replaceability of important wearing parts must be guaranteed. This includes the easy dismantling of the tools and components and easy accessibility to the wearing parts.
- The chemical system used in the rechargeable batteries must be described on the outside of the batteries and also in the product advertisements on the Internet.
- The recyclable and easy to repair design must take into account the relevant safety requirements for consumers.

Exemption: Handles manufactured using several different polymers for safety reasons are excluded from this requirement.

Compliance verification:

The applicant shall declare compliance with the requirement in Annex 1 and submit the corresponding pages of the product documentation in Annex 13.

3.3.3 Repairability

The applicant undertakes to guarantee the provision of the most important spare parts for the repair of the tools from immediately after the device is placed on the market until at least 5 years after the last unit of the relevant model is sold on the market for the first time, at least to professional repairers. The spare parts must also be made available individually at reasonable prices by the manufacturer themselves or a third party. All spare parts must have at least the same functionality and performance as the original parts.

Compliance verification:

The applicant shall declare compliance with the requirements in Annex 1 to the contract, mark the corresponding sections of the product documentation in which the provision of spare parts is indicated and submit the relevant pages of the product documentation as Annex 13 to the contract.

⁵ Polymer blends are special mixtures of two or more plastics that exhibit improved properties compared to the pure plastics contained within them.

3.3.4 Exclusion of harmful substances in the tools

The tools must comply with EU Directive 2011/65/EU (RoHS Directive). In accordance with Annex II, this refers to the exclusion of lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB), polybrominated diphenyl ethers (PBDE) and di(2-ethylhexyl) phthalate (DEHP), benzyl butyl phthalate (BBP), dibutyl phthalate (DBP) and diisobutyl phthalate (DIBP). The exemptions in Annex III to this EU Directive are not valid for this environmental label.

Compliance verification:

The applicant shall declare in Annex 1 that the garden tool does not contain any of the substances listed in Annex II and submit a declaration of conformity with the ROHS Directive in Annex 11.

3.3.5 Material requirements for plastics used in the housing and handles

The plastics used in the housing, housing parts and handles may not contain any substances with the following properties (which are added to the product as such or as part of a mixture and remain there unchanged in order to achieve or influence certain product properties):

- a) Substances which are identified as particularly alarming under the European Chemicals Regulation REACH (1907/2006/EC) and which have been incorporated into the list drawn up in accordance with Article 59, Paragraph 1 of the REACH Regulation (so-called "list of candidates").⁶
- b) Substances that according to the CLP Regulation have been classified in the following hazard categories or which meet the criteria for such classification:
 - ▶ carcinogenic in categories Carc. 1A, Carc. 1B or Carc. 2
 - ▶ germ cell mutagenic in categories Muta. 1A, Muta. 1B or Muta 2
 - ▶ reprotoxic (teratogenic) in categories Repr. 1A, Repr. 1B. or Repr. 2.
- c) Halogenated polymers are not permitted. Neither may halogenated organic compounds be added as flame retardants. In addition, the use of flame-retardant materials that are rated as acutely toxic to aquatic organisms with long-term effects and classified with the hazard statement code H410 according to the CLP Regulation (EC/1272/2008) is prohibited.

The following are exempt from this rule:

- plastic parts with a mass of less than or equal to 25 g.

Compliance verification:

The applicant shall declare compliance with the requirements in Annex 1 and submit a written declaration from the plastics manufacturer or guarantee the provision of these documents to RAL gGmbH. The declaration shall confirm that the excluded substances have not been added to the plastics and provide a chemical description of the flame-retardant materials used including the CAS number and its rating (H Phrases) (Annexes P-M and P-L to the contract).

⁶ List of candidates from the REACH Regulation (EC) No. 1907/2006: <https://www.echa.europa.eu/de/candidate-list-table>. The version of the list of candidates at the time of application is valid. The label holder is obligated to take into account current developments on the list of candidates. If a plastic is newly added to the list of candidates during the term of the Basic Award Criteria, the label holder must submit an informal notification stating the name of the substance and its CAS or EC number.

When first applying for the Blue Angel environmental label, the submitted declaration must not be older than 6 months.

If one applicant submits additional applications for the labelling of products that contain the same plastics, the submitted declarations may be presented unchanged during the term of the Basic Award Criteria. Notwithstanding this, RAL shall be entitled to ask for an updated version of the declarations if the German Environment Agency (Umweltbundesamt) finds that product-relevant substances have been added to the list of candidates.

3.3.6 Additional exclusion of harmful substances in the handles

Polycyclic aromatic hydrocarbons (PAHs)

The use of polycyclic aromatic hydrocarbons (PAHs) in the materials used for the handles should be avoided. It must be verified that the following maximum contents are not exceeded in the handles:

Sum of 15 PAHs: < 10 mg/kg

(naphthalene, phenanthrene, anthracene, fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo(a)pyrene, benzo(e)pyrene, benzo(b)fluoranthene, benzo(j)fluoranthene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene, benzo(g,h,i)perylene)

Compliance verification:

The applicant shall declare compliance with the requirements in Annex 1.

In order to verify the avoidance of PAHs in the handle materials, the applicant shall submit a test report in accordance with the requirements found in AfPS⁷ GS 2019:01 PAH⁸. The requirements for subcategory "Other products in the scope of ProdSG" under category 2 for "Materials not covered by category 1, with foreseeable skin contact for longer than 30 seconds (long-term skin contact) or repeated short-term skin contact" must be fulfilled (Annex 12).

3.4 Requirements for the consumer information

The documentation included with the garden tools must include both the technical specifications and also consumer information relevant to human health, safety and the environment. This must be enclosed in printed form with the relevant tool and it must also be easy to find on the Internet. The following user information relevant to the environment must be listed in the operating instructions and the product documentation:

- a) Information on suitable handling of the rechargeable batteries to promote a long service life:
 - ♦ Adequate charging (in a dry, optimal temperature, protected against the influence of heat and cold, partial charging at a certain capacity range extends the service life, continuous charging cycles, use of the associated charging device, etc.)
 - ♦ Adequate storage (in a dry state, optimal temperature and charging status, protected against the influence of heat and cold)
 - ♦ Optimal working temperature (avoid high temperatures)
 - ♦ Safety instructions for minimising risks e.g. risk of fire, risk of explosions, etc.
 - ♦ Information on the capacity in Ah and the guaranteed service life
- b) Information on the replacement of rechargeable batteries

⁷ Product Safety Commission (AfPS)

⁸ <https://www.baua.de/DE/Aufgaben/Geschaefsfuehrung-von-Ausschuessen/AfPS/pdf/AfPS-GS-2019-01-PAK.html>

- ♦ Mechanical removability, possibility of purchasing replacement batteries
- c) Information on the disposal of rechargeable batteries:
- ♦ Not in household waste
 - ♦ Take back scheme with dealers (or recycling centres)
 - ♦ The following logo for collection sites (Sammelstellenlogo) must be easy to find on the Internet (for the German market)



- d) Information on the disposal of the garden tool:
- ♦ The following logo for collection sites (Sammelstellenlogo) must be easy to find on the Internet (for the German market)



- e) Information on the use of lubricants (if lubricants are relevant for the tool group):
- ♦ The use of readily biodegradable (chain) lubricants according to DE-UZ 178 is advantageous
- f) Information on the repairability/replaceability of wearing parts.

Compliance verification:

The applicant shall submit the corresponding pages of the product documentation (Annex 13).

3.5 Labelling of the end product

- If the rechargeable batteries are sold without a tool, the label holder may only use appropriate wording to indicate that it complies with the Blue Angel criteria, e.g.: "This rechargeable battery is suitable for tool XY and complies with the criteria in Paragraph 3.2 of the Blue Angel ecolabel for garden tools (UZ206)." The use of the logo is not permitted.
- The logo can be used if the tool is sold without a rechargeable battery. In this case, the label holder must provide information on which compatible models of rechargeable batteries comply with the criteria. It is important to note here that this information must be placed near to the logo because reference is made to the rechargeable battery on the logo.
- If the garden tool is sold as a complete unit (tool + rechargeable battery), the logo may be used without any further guidance.

4 Overview of possible future requirements

As part of the next revision of these Basic Award Criteria, it is anticipated that, amongst other things, the following aspects will be taken into account:

- Increasing the proportion of post-consumer recycled plastic in the plastic parts
- Requirements for the availability of specific spare parts
- The exclusion of chemicals with new hazard characteristics (PBT, PMT...) in the plastics
- Extending the warranty cover for hobby tools
- Adding robot lawnmowers to the scope and including requirements for the availability of software

5 Applicants and parties involved

Manufacturers or distributors of products according to Paragraph 2 shall be eligible for application.

Parties involved in the award process are:

- RAL gGmbH to award the Blue Angel environmental label,
- the federal state being home to the applicant's production site,
- Umweltbundesamt, (German Environment Agency) which after the signing of the contract receives all data and documents submitted in application for the Blue Angel in order to be able to further develop the Basic Award Criteria.

6 Use of the environmental label

The use of the environmental label by the applicant is governed by a contract on the use of the environmental label concluded with RAL gGmbH.

Within the scope of such contract, the applicant undertakes to comply with the requirements under Paragraph 3 while using the environmental label.

Contracts on the Use of the Environmental Label are concluded to fix the terms for the certification of products under Paragraph 2. Such contracts shall run until 31 December 2027.

They shall be extended by periods of one year each, unless terminated in writing by 31 March 2027 or 31 March of the respective year of extension.

After the expiry of the contract, the Environmental Label may neither be used for labelling nor for advertising purposes. This regulation shall not affect products being still in the market.

The applicant shall be entitled to apply to RAL gGmbH for an extension of the right to use the ecolabel on the product entitled to the label if it is to be marketed under another brand/trade name and/or other marketing organizations.

The Contract on the Use of the Environmental Label shall specify:

- Applicant (manufacturer/distributor)
- Brand/trade name, product description
- Distributor (Label User), i.e. the marketing organization.

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Anhang A Quoted laws, standards and literature

- 32nd Ordinance for the implementation of the Federal Immission Protection Act (32nd BIm-SchV) for the implementation of EU Directive 2000/14/EC of the European Parliament and of the Council of 8 May 2000 (German Equipment and Machinery Noise Prevention Ordinance (Geräte- und Maschinenlärmschutzverordnung))
- German Battery Act (BattG) for the implementation of EU Directive 2006/66/EC of the European Parliament and of the Council of 6 September 2006 on batteries and accumulators and waste batteries and accumulators
- CLP Regulation: Regulation (EC) No. 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, as well as amending Regulation (EC) No. 1907/2006
- DIN EN 50434:2015-03 Safety of household and similar appliances - Particular requirements for mains operated shredders and chippers
- DIN EN 50636-2-91 Household and similar electrical appliances - Safety - Part 2-91: Particular requirements for walk-behind and hand-held lawn trimmers and lawn edge trimmers
- DIN EN 62133-2:2022-12 Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for portable sealed secondary cells, and for batteries made from them, for use in portable applications - Part 2: Lithium systems
- DIN EN 62841-4-1,-2,-3 & -7 Electric Motor-Operated Hand-Held Tools, Transportable Tools and Lawn and Garden Machinery - Safety:
- Part 4-1: Particular requirements for chain saws
 - Part 4-2: Particular requirements for hedge trimmers
 - Part 4-3: Particular requirements for pedestrian controlled walk-behind lawnmowers
- DIN EN ISO/IEC 17025 (2018-03): General requirements for the competence of testing and calibration laboratories
- Electrical and Electronic Equipment Act (ElektroG) for the implementation of Directive 2012/19/EU on waste electrical and electronic equipment (WEEE Directive)
- The German Material Ordinance for Electrical and Electronic Equipment (ElektroStoffV) for the implementation of EU Directive 2012/19/EU (WEEE Directive) and 2011/65/EU (ROHS Directive)
- EN 61960-3:2017 Secondary cells and batteries containing alkaline or other non-acid electrolytes - Secondary lithium cells and batteries for portable applications - Part 3: Prismatic and cylindrical lithium secondary cells, and batteries made from them
- Law for making products available on the market for the implementation of Directive 2006/42/EC (German Product Safety Act - Produktsicherheitsgesetz - ProdSG)
- Occupational safety regulation on noise and vibration (LärmVibrationsArbSchVEinfV 2007) for the implementation of EU Directives 2002/44/EC and 2003/10/EC for the protection of workers against risks arising from noise and vibrations and the associated technical rules for noise and vibrations

REACH regulation: Regulation (EC) No. 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC

Directive 2000/14/EC of the European Parliament and of the Council on the approximation of the laws of the Member States relating to the noise emission in the environment by equipment for use outdoors (Outdoor Directive)

Standard UN 38.3: Transportation Testing for Lithium Batteries and Cells

Commission regulation (EU) No. 1103/2010 establishing, pursuant to Directive 2006/66/EC of the European Parliament and of the Council, rules as regards capacity labelling of portable secondary (rechargeable) and automotive batteries and accumulators

Commission Regulation (EU) 2019/1782 laying down ecodesign requirements for external power supplies pursuant to Directive 2009/125/EC of the European Parliament and of the Council and amending Commission Regulation (EU) No 278/2009

Regulation (EU) 2023/1230 of the European Parliament and of the Council on machinery and repealing Directive 2006/42/EC of the European Parliament and of the Council and Council Directive 73/361/EEC

Regulation (EU) 2023/1542 of the European Parliament and of the Council concerning batteries and waste batteries, amending Directive 2008/98/EC and Regulation (EU) 2019/1020 and repealing Directive 2006/66/EC

Anhang B Definitions of garden tools

according to the respective number in Annex I of the Outdoor Directive 2000/14/EC

Chain saws (6)

A power-driven tool designed to cut wood with a saw chain and consisting of an integrated compact unit of handles, power source and cutting attachment, designed to be supported with two hands.

Hedge trimmers (25)

Hand-held, integrally driven powered equipment which is designed for use by one operator for trimming hedges and bushes utilising one or more linear reciprocating cutter blades.

Lawnmowers (32)

A walk-behind or ride-on grass cutting machine or a machine with grass-cutting attachment(s) for cutting grass. The machine uses the ground to determine the height of cut by means of wheels, air cushion or skids, etc. The cutting devices are either rigid cutting elements or non-metallic filament lines or cutters. The cutting device operates in a plane approximately parallel to the ground or the cutting elements rotate about a horizontal axis (cylinder mower and riding mowers).

Electrical trimmers, scythes and brush cutters⁹ (33)

A portable hand-held unit for cutting grass, weeds, brush or similar vegetation. The rotating blade can be rigid or flexible and made out of metal (only cordless tools) or plastic. The cutting tool is intended for operation on a plane parallel or perpendicular (tool designed as an edge trimmer) to the ground.

Scarifiers^r (49)

A walk-behind or ride-on powered machine with an assembly appropriate to slit or scratch the surface of the lawn.

Shredders (50)

A powered machine designed for use in a stationary position having one or more cutting devices for the purpose of reducing bulk organic materials to smaller pieces. Generally it consists of a feed intake opening through which material (which may be held by an appliance or not) is inserted, a device which cuts up the material by whatever method (cutting, chopping, crushing or other methods) and a discharge chute through which the cut material is discharged. A collecting device may be attached.

Pole pruners¹⁰

A portable hand-held unit for cutting wood at a height above the height of the operator. The tool has a power-driven saw chain that is permanently mounted on the top end of a pole or telescopic pole. Operation is carried out at ground level by guiding the tool with both hands via the operating handle on the bottom end of the pole or telescopic pole.

⁹ The equipment definitions with the numbers 2 (brush cutter), 24 (grass trimmer/grass edge trimmer) and 33 (lawn trimmer/lawn edge trimmer) in Directive 2000/14/EC can be confusing for consumers. These products are also called "cordless brush cutters", "electric scythes" or "electric trimmers" on the market. A uniform description has not yet been found. In these Basic Award Criteria Award Criteria, the tools are generally designated as "electrical trimmers, scythes and brush cutters". In effect, this corresponds to definition no. 33 (lawn trimmer/lawn edge trimmer) in 2000/14/EC.

¹⁰ (not within the scope of 2000/14/EC)

Anhang C Assignment of hazard categories and H Phrases

The following table assigns the hazard categories for the general exclusion of substances to the corresponding hazard statements (H Phrases).

CLP Regulation (EC) No. 1272/2008		
Hazard categories	Hazard statements	
	H Phrases	Wording
Carcinogenic substances		
Carc. 1A Carc. 1B	H350	May cause cancer.
Carc. 1A Carc. 1B	H350i	May cause cancer if inhaled.
Carc. 2	H351	Suspected of causing cancer
Germ cell mutagenic substances		
Muta. 1A Muta. 1B	H340	May cause genetic defects.
Muta. 2	H341	Suspected of causing genetic defects.
Reprotoxic substances		
Repr. 1A Repr. 1B	H360D	May damage the unborn child.
Repr. 1A Repr. 1B	H360F	May damage fertility.
Repr. 1A Repr. 1B	H360FD	May damage fertility. May damage the unborn child.
Repr. 1A Repr. 1B	H360Df	May damage the unborn child. Suspected of damaging fertility.
Repr. 1A Repr. 1B	H360Fd	May damage fertility. Suspected of damaging the unborn child.
Repr. 2	H361f	Suspected of damaging fertility
Repr. 2	H361d	Suspected of damaging the unborn child

Anhang D Determining the durability of the rechargeable battery

The following definitions are used for determining the durability of the rechargeable battery:

Rated capacity (C): Quantity of electricity (in ampere hours) declared by the manufacturer of the cells that a single cell or composite cell can deliver during a 5-hour period when charged, stored and discharged according to the conditions specified in section 7.3.1 of EN 61960 (see Paragraph 3.4.2).

Nominal capacity (N): Quantity of electricity (in ampere hours) declared by the manufacturer of the battery or battery pack on the battery and in the product documentation that is stored in the battery and can be delivered by it at a discharge current specified by the manufacturer. The nominal capacity is normally the same as the rated capacity. The manufacturer may, however, give a value lower than the rated capacity.

Remaining capacity (Q_{Rem}): Quantity of electricity that can be withdrawn from the charged battery ("Full Charge Capacity" according to the Smart Battery System Specifications¹¹) after performing the charge cycle test for determining the number of full charge cycles achievable by the battery (see below). The remaining capacity decreases due to cyclization of the battery.

Charge cycle: According to the EN 61960 standard, a charge cycle means the charging of a battery according to the manufacturer's specifications and subsequent discharging of the battery to the end-of-discharge voltage.

Full charge cycle: A full charge cycle means the charging of a battery and the withdrawal of a quantity of electricity (in ampere hours) in the amount of its nominal capacity (N). The difference between a full charge cycle and the charge cycle according to EN 61960 is that a charge cycle is not defined by reaching the end-of-discharge voltage but by the quantity of energy withdrawn, which is specified by the nominal capacity (N). A full charge cycle can require more (or less) than one charge cycle.

Preparation for the test

- a) Determination of the rated capacity (C) in accordance with EN 61960, section 7.3.1 "Discharge performance at 20 °C (rated capacity)"
- b) Determination or specification of the nominal capacity (N)
- c) Full discharge of the battery to the end-of-discharge voltage

Performance of the test

The tests must be carried out on a minimum of three batteries in accordance with the sample size specified in EN 61960. All three batteries must fulfil the specified requirements. The tests must be carried out with charge and discharge currents, an ambient temperature and respective periods of rest according to EN 61960, section "7.6.2 Endurance in cycles at a rate of 0.2 IT A".

¹¹ Smart Battery System Specifications, Smart Battery Data Specification, Revision 1.1, <http://smartbattery.org/specs/sbdat110.pdf>

- **Charge cycle test**

- a) Charge the battery
- b) Period of rest after charging
- c) Discharge the battery
- d) During discharge: measure the quantity of electricity delivered (Q_i)
- e) Period of rest after discharge

The charge and discharge processes must be repeated at least until the total of the quantities of electricity delivered (Q_i) reaches at least 1200 times the amount (for professional tools) or at least 500 times the amount (for hobby tools) of the nominal capacity (N):

$$\sum_{i=1}^n Q_i \geq 1200 * N [Ah]$$

or

$$\sum_{i=1}^n Q_i \geq 500 * N [Ah]$$

During the test cycle, the quantities of electricity delivered (Q_i) must not fall below 75% of the original nominal capacity (N). Otherwise, the test will have been failed.

This means that the following must apply for each cycle i :

$$Q_i \geq 75\% * N ; i = \{1, \dots, n\}$$

- **Determining the remaining capacity**

Following performance of the cycle test described above, the battery's remaining capacity (Q_{Rem}) must be determined:

- a) Charge the battery to its maximum level according to the manufacturer's specifications
- b) Period of rest after charging
- c) Discharge the battery to the end-of-discharge voltage
- d) During discharge: measure the quantity of electricity delivered.
- e) This quantity of recovered charge is called the remaining capacity (Q_{Rem}).

For compliance with the requirements for the ecolabel, the remaining capacity (Q_{Rem}) must be at least 80% of the original nominal capacity (N):

$$Q_{Rem} \geq 80\% * N$$

Compliance with this requirement is also a prerequisite for determining the number of full charge cycles, as described in the following section.

- **Determining the number of full charge cycles**

In order to be able to determine the number of full charge cycles, the remaining capacity (Q_{Rem}) after performance of the cycle test described above must be at least 80% of the original nominal capacity (N) (see preceding condition). The number of full charge cycles must be calculated as

the quotient of the total of the quantities of electricity delivered in the cycle test (Q_i) and the nominal capacity:

$$\text{Vollladezyklen} = \frac{\sum_{i=1}^n Q_i}{N}$$

- **Simplified calculation rule**

If the number of charge cycles that can be achieved by the battery has been determined using a cycle test according to EN 61960 (section 7.6 Endurance in Cycles) or a comparable method that includes the cyclic maximum charging of the battery and the discharge of the battery to the end-of-discharge voltage, a simplified calculation method can be used to calculate the number of full charge cycles. This method can also only be used if, following performance of the cycle test, the remaining capacity (Q_{Rem}) is at least 80% of the original nominal capacity (N).

The number of full charge cycles can be calculated in a simplified way by multiplying the number of charge cycles achieved in the cycle test by the quotient of the average quantity of electricity delivered ($Q_{i_average}$) and the nominal capacity (N):

$$\text{Vollladezyklen} = \text{Ladezyklen} * \frac{Q_{i_mittel}}{N}$$

- **Documentation of the tests**

The test report must contain at least the following information:

- Name of the testing laboratory
- Confirmation of the testing laboratory's competence
- Name of the test method (e.g. EN 61960)
- For each of the three batteries tested:
 - ♦ Nominal capacity (N)
 - ♦ Remaining capacity (Q_{Rem}) after performance of the test
 - ♦ Number of full charge cycles achieved
 - ♦ If the simplified method of calculation is used: average quantity of electricity delivered ($Q_{i_average}$).