

BLUE ANGEL

The German Ecolabel



Electric Kettles for Household Use

DE-UZ 133

Basic Award Criteria

Edition September 2013

Version 3

The Environmental Label is supported by the following four institutions:



The Federal Ministry for the Environment, Nature Conservation and Nuclear Safety is the owner of the label. It regularly provides information on the decisions taken by the Environmental Label Jury.



The German Environmental 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.



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.



The 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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This document is a translation of a German original. In case of dispute, the original document should be taken as authoritative.

1 Introduction

1.1 Preface

In cooperation with the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, the German Environmental 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 this requirement.

1.2 Background

Heating water for tea or coffee accounts for a substantial share of cooking or energy consumption of cookers, respectively. An electric kettle can make the process much more efficient than an electric cooker – the latter consumes about 50% more electricity – even under favourable conditions (matching pot size, with lid, filled with exactly the required amount of water). In practice, the power consumption of an electric cooker is often even higher because the pot is filled with more water than actually needed or if, for example, the pot does not fit exactly or if the water is boiled without a lid on the pot.

The additional production of an electric kettle accounts for only 1 to 3 percent of the energy consumption, greenhouse gas emissions and other environmental effects and will be largely overcompensated by the savings realised during the use of the product.

1.3 Objectives of the Blue Angel Eco-Label

Climate protection, reduction of energy consumption as well as the avoidance of hazardous substances and waste are key objectives of environmental protection.

The Blue Angel eco-label for electric kettles may be awarded to products with the following environmental attributes:

- lowest possible power consumption ,
- the appliances shall be durable, user-friendly and safe and
- the use of environmentally harmful materials shall be avoided.

Therefore the information field states the following advantages for environment and health:



1.4 Basic Legal Provisions

It goes without saying that Blue Angel eco-labelled products comply with current laws and regulations, especially with the following ones:

- The EU Directives¹ transposed into German law by the Elektro- und Elektronikgesetz (ElektroG) (Electrical and Electronic Equipment Act)² as well as by the Ordinance on the restriction of the use of certain hazardous substances in electrical and electronic equipment (Elektro- und Elektronikgeräte-Stoff-Verordnung - ElektroStoffV)³ shall be complied with.
- The substance requirements defined by the EU Chemicals Regulation REACH (1907/2006/EC)⁴ and Regulation EC No. 1272/2008⁵ (or Directive 67/548/EEC) shall be met.
- The requirements of the European Union for appliance safety (EU-Conformity Marking „CE“) shall be met.
- The requirements for materials in contact with foodstuffs shall be complied with in accordance with the German LFGB (German Food and Feed Code)⁶.

1.5 Outlook on Future Revisions of these Basic Criteria

Future revisions of these Basic Criteria will check whether or not aspects of longevity, for example, in the form of a fatigue test, may be included.

2 Scope

These Basic Criteria apply to electric water kettles for household use. Further requirements regarding the type of electric kettles are set forth in paragraph 3.1.

¹ DIRECTIVE 2012/19/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 on waste electrical and electronic equipment (WEEE);
DIRECTIVE 2011/65/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment

² Gesetz über das Inverkehrbringen, die Rücknahme und die umweltverträgliche Entsorgung von Elektro- und Elektronikgeräten (Act on the placing on the market, return and environmentally sound disposal of waste electrical and electronic equipment), Federal Law Gazette 2005, Part I, No.17 (23 May 2005).

³ Elektro- und Elektronikgeräte-Stoff-Verordnung (Electrical and Electronic Equipment Regulation) from 19. April 2013 (BGBl. I S. 1111)

⁴ Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 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

⁵ Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006

⁶ Lebensmittel-, Bedarfsgegenstände- und Futtermittelgesetzbuch (Lebensmittel- und Futtermittelgesetzbuch – LFGB) (German Food and Feed Code)

3 Requirements

3.1 Design

The electric kettle shall have a removable water tank for cordless use. The power cable shall remain connected to the base plate and need not be unplugged from the outlet when moving the tank (to fill in water). In addition, products applying for the Blue Angel eco-label shall be equipped with a concealed heating coil.⁷ Compliance with the above-mentioned criteria does not only improve the user friendliness but also indirectly extend the product's service life.

Compliance Verification

The applicant shall declare compliance with the requirements in Annex 1 and submit the EC Declaration of Conformity forming the basis of a product's CE marking as well as the relevant product literature.

3.2 Maximum Power Consumption

The power required to heat distilled water (starting temperature: 20 degree Celsius) to the automatic switch-off shall not exceed 0.115 kWh/litre of water at an atmospheric pressure of 1 bar. With a starting temperature of 15°C the permissible maximum power consumption would be 0.122 kWh/litre of water.

Compliance Verification

The applicant shall declare compliance with the requirement and submit the test protocol (see Annex 3 for the form). Power consumption measurement shall be continued until the kettle switches off automatically with a filling volume of 1 litre.

3.3 Water Level Indicator

Appliances applying for the Blue Angel eco-label shall be equipped with a water level indicator. The water level in the water tank shall be easily readable from the outside with the lid closed by means of a water level indicator that is easy to read from the outside. The water level in the tank shall be visible at a fill quantity as low as possible, at least, however, at a fill quantity of 0.30 l. The water level indicator shall start at a minimum of 0.50 l. The water level scale shall be subdivided into steps of no more than 0.25 litres.

Compliance Verification

The applicant shall declare compliance with the requirement and submit the relevant pages of the product literature as well as a sample.

⁷ If the construction of the appliance requests another technical transformation, it should be justified.

3.4 Material Requirements

3.4.1 Plastics used in Water Tank and Base Plate

No substances may be added to the plastics as constituent parts which are classified as:

- a) carcinogenic of category 1 or 2 according to Table 3.2 or category 1A or 1B according to Table 3.1 of Annex VI to Regulation (EC) No 1272/2008⁸
- b) mutagenic of category 1 or 2 according to Table 3.2 or category 1A or 1B according to Table 3.1 of Annex VI to Regulation (EC) No 1272/2008
- c) toxic to reproduction of category 1 or 2 according to Table 3.2 or category 1A or 1B according to Table 3.1 of Annex VI to Regulation (EC) No 1272/2008
- d) being of very high concern for other reasons according to the criteria of Annex XIII to the REACH Regulation, provided that they have been included in the List (so-called "Candidate List"⁹) set up in accordance with REACH, Article 59, paragraph 1.

Halogenated polymers shall not be permitted. Nor may halogenated organic compounds be added as flame retardants. Moreover, no flame retardants may be added which are classified pursuant to Table 3.1 or 3.2 in Annex VI to Regulation (EC) 1272/2008 as very toxic to aquatic organisms with long-term adverse effect and assigned the Hazard Statement H410 or Risk Statement R50/53.

The following shall be exempt from this rule:

- process-related, technically unavoidable impurities;
- fluoroorganic additives (as, for example, anti-dripping agents) used to improve the physical properties of plastics, provided that they do not exceed 0.5 weight percent;
- plastic parts less than 25 grams in mass.

⁸ Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006, Annex VI Harmonized classification and labelling for certain hazardous substances, Part 3: Harmonized classification and labelling – Tables, Table 3.2, – List of harmonized classification and labelling of dangerous substances from Annex I to Directive 67/548/EEC, (short: GHS Regulation). http://www.reach-info.de/ghs_verordnung.htm, as amended.

The GHS Regulation (Global Harmonization System) that has come into force on January 20, 2009, replaces the old Directives 67/548/EEC and 1999/45/EC. According to the said regulation, substances are classified, labelled and packed until December 1, 2010 according to Directive 67/548/EEC (Dangerous Substances Directive) while mixtures are classified, labelled and packed until June 1, 2015 according to Directive 1999/45/EC (Dangerous Preparations Directive). Notwithstanding this, the classification, labelling and packaging of substances and preparations may be performed according to the provisions of the GHS Regulation already before December 1, 2010 or June 1, 2015, respectively. In such case, the provisions of Dangerous Substances Directive or Dangerous Preparations Directive shall not be applicable.

⁹ Link to the Candidate List in Regulation (EC) No. 1907/2006 concerning the Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH): <http://echa.europa.eu/web/guest/candidate-list-table>

Compliance Verification

The applicant shall declare compliance with the requirements in Annex 1 and submit a written declaration from the plastic manufacturers or ensure the submission of such declaration to RAL gGmbH. Such declaration in Annex P-M shall confirm that the banned substances have not been added to the plastics and give the chemical designation of the flame retardants used, including CAS No. and classifications.

The applicant shall name the housing plastics used for parts ≥ 25 grams in mass and submit a list of the housing plastics used pursuant to Annex P-L25.

3.4.2 Plastic Parts that may be Touched

All plastic parts that may be touched shall be tested for PAHs (polycyclic aromatic hydrocarbons) using the method used for award of the GS mark (GS - tested for safety). The maximum admissible level of total PAHs shall be 10 mg/kg. The maximum admissible level of benzo[a]pyrene shall be 1 mg/kg. This corresponds to the maximum values for award of the GS Mark, Category 2 (materials with foreseeable contact to skin for more than 30 s). PAH measurements shall be taken in accordance with the specifications set forth in ZEK 01.2-08 "Prüfung und Bewertung von Polyzyklischen Aromatischen Kohlenwasserstoffen (PAK) bei der GS-Zeichen-Zuerkennung" (Testing and Validation of Polycyclic Aromatic Hydrocarbons (PAHs) for Award of the GS Mark).

Compliance Verification

The applicant shall declare compliance with the basic principles and submit either a GS Certificate on the basis of the current version of ZEK 01.4-08 or an equivalent test report verifying that the limits specified are complied with.

3.4.3 Components in Contact with Drinking Water

Components that come into contact with drinking water shall comply with the provisions of the German Lebensmittel-, Bedarfsgegenstände- und Futtermittelgesetzbuch (Lebensmittel- und Futtermittelgesetzbuch - LFGB) (German Food and Feed Code) as well as with the relevant BfR recommendations for materials coming into contact with food (BfR – Federal Institute for Risk Assessment). Plastic components and sealing materials that come into contact with drinking water must not release bisphenol A.

Compliance Verification

Applicant shall declare compliance with the requirement in Annex 1 to the Contract. The applicant shall submit a report pursuant to the German Food and Feed Code (LFGB) prepared by a DIN EN ISO/IEC 17025 accredited testing laboratory.

3.5 2-Year Warranty

The applicant undertakes to offer a minimum 2-year warranty on the appliances. The product literature shall include warranty details.

Compliance Verification

The applicant shall declare compliance with the requirements in Annex 1 to the Contract and submit the relevant pages of the product literature.

3.6 Safety Requirements

Blue Angel eco-labelled products shall meet the following safety requirements:

- The electric kettle shall switch off within no more than 15 seconds if switched on without water.¹⁰
- The jug shall be stable and fit firmly on the base plate without wobbling.
- A highly visible indicator lamp shall indicate that the electric kettle is on and heating.

Compliance with electrical safety requirements shall be tested in accordance with DIN EN 60335¹¹.

Compliance Verification

The applicant shall declare compliance with the requirements in Annex 1, submit the relevant pages of the product literature and attach a test report stating that electrical safety has been tested in accordance with DIN EN 60335.

3.7 Additional Requirements for User Friendliness

Blue Angel eco-labelled products shall also provide adequate user friendliness. For this purpose, the appliances shall be equipped with:

- a pouring filter,
- a fully operable spout or a well-designed pouring rim,
- a wide lid opening upwards (for filling and cleaning purposes),
- a lid that fits firmly when pouring and
- a power cord that can be coiled underneath the base plate.¹²

Compliance Verification

The applicant shall declare compliance with the requirements and submit the relevant pages of the product literature.

3.8 Consumer Information

- a) The energy consumption of the appliances can be optimized by heating only as much water as is actually needed. The product literature shall include tips for energy efficient use of the product. The user shall be advised to heat only as much water as needed.
- b) In order to avoid excessive calcification the product literature shall advise the user to pour out the excess water after heating. In addition, the product information shall include a notice indicating the necessity and the process of regular decalcification, particularly in areas with hard water.
- c) There shall be detailed instructions for safe use of the electric kettle.
- d) There shall be comprehensible instructions for proper disposal.
- e) The product literature shall indicate the calculated power consumption per 1 litre of water.
- f) To ensure the readability of the consumer information (font size, spacing, etc.) it should comply with DIN EN 62079.

¹⁰ The period of 15 seconds shall be related to the maximal heating phase of water.

¹¹ DIN EN 60335: Household and similar electrical appliances - Safety

¹² If the construction of the appliance requests another technical transformation, it should be justified.

Compliance Verification

The applicant shall declare compliance with requirements in Annex 1 and submit the relevant pages of the product literature.

4 Applicants and Parties Involved

Manufacturers or distributors of final 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 Environmental Agency) which after the signing of the contract receives all data and documents submitted in applications for the Blue Angel in order to be able to further develop the Basic Award Criteria.

5 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 December 31, 2023. They shall be extended by periods of one year each, unless terminated in writing by March 31, 2023 or March 31 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 (manufacturer) 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 organisations.

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 above-mentioned marketing organisations.