BLUE ANGEL

The German Ecolabel

Cooking and heat-resistant filter paper and baking paper

DE-UZ 65

Basic Award Criteria

Edition January 2025

Version 4

The Environmental Label is supported by the following four institutions:

Federal Ministry
for the Environment, Climate Action,
Nature Conservation and Nuclear Safety

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

Umwelt Bundesamt

The German Environmental Agency with its specialist department for "Ecodesign, Eco-Labelling 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

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, Nuclear Safety and Consumer Protection, 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

The Blue Angel requires that paper products that come into contact with foodstuffs are made of virgin fibres. Therefore, it is important that these fibres come from controlled sources and sustainably managed forests in order to protect forests as natural habitats and conserve biodiversity. There are currently two main forest certification systems recognised by the Blue Angel: the system operated by the Forest Stewardship Council (FSC) and the Programme for the Endorsement of Forest Certification Schemes (PEFC).
The production of the pulp used to make the paper is a particularly energy-intensive process that is associated with emissions to water and air. Requirements placed on the pulp production process also help to reduce any impact on the environment and strictly limit the acidification of the atmosphere and the eutrophication of bodies of water using the best available techniques. Pulp plants usually have their own waste water treatment plants and are thus direct dischargers. Strict requirements apply to the emissions to waste water during the production of the pulp. Pulp used for cooking and heat-resistant filter paper may not be bleached. The requirements placed on emissions to air and energy consumption in the pulp production process in these Basic Award Criteria have been defined as specifically as possible for the particular type of paper that comes into contact with food because, for example, special long-fibre pulp is used for cooking and heat-resistant filter paper.
Cooking and heat-resistant filter paper and baking paper are special types of paper and their production processes are more energy intensive than the processes used for other paper products. The requirements placed on energy consumption and the emissions to air and water are also important for minimising the impact on the environment and they have been defined as specifically as possible for each of these two types of paper that come into contact with food. In order for baking paper to be resistant to grease, the pulp has to be finely ground and this process requires a lot of energy. Pressing and drying this type of paper also consumes much more energy than when producing conventional paper.
Various types of chemicals are used in the paper industry. This includes coating materials, wet strength agents, biocides, dispersing agents, retention agents and dyes. The German Federal Institute for Risk Assessment (BfR) regularly updates its recommendations for the health-related evaluation of food contact materials. As these recommendations are not obligatory legal standards, however, the Blue Angel has made compliance with the BfR recommendations a

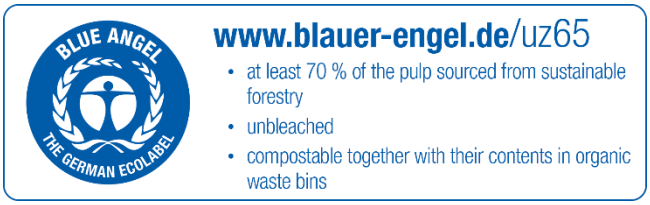
requirement for cooking and heat resistant paper and baking paper certified with the ecolabel. The BfR recommendations include specific tests that must be carried out on the end product. They also define a positive list of the auxiliaries that are approved for use and set purity requirements for these auxiliaries.
Baking paper can be coated with various different chemicals. Some of the substances used as coating materials – such as fluorinated substances that are not readily biodegradable – can be damaging to the environment and human health. The use of these compounds is prohibited in the production of products certified with the Blue Angel. Applicants must monitor any contamination of the product with fluorinated substances and comply with strict limits in their baking paper. The Blue Angel only permits the use of silicone as a coating for the baking paper and also imposes additional requirements on this silicone coating.
Coffee and tea filters made of paper are disposable products that can be recycled after use. However, they can also be composted together with their contents. Applicants must verify the compostability of the products by stating the composition of the filter and testing it under industrial composting conditions. In contrast, baking paper can be used multiple times and should not be composted after use. The Blue Angel requires manufacturers to provide end consumers with clear information with respect to compositing on the packaging.
Furthermore, the Blue Angel also requires that the packaging contains the highest possible proportion of recycled materials.

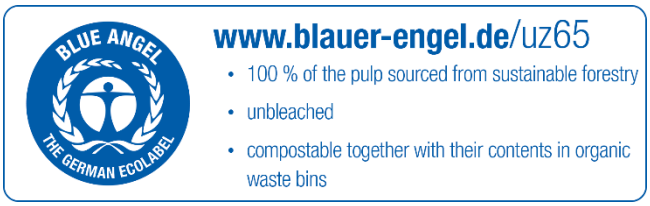
1.3 Objectives of the Environmental Label

Promoting sustainable forestry in the procurement of the wood and placing the strictest possible requirements on the energy-intensive pulp and paper production processes, in order to reduce energy consumption and lower the emissions to air and waste water, are important objectives of environmental protection. The correct disposal of coffee and tea filters helps to avoid waste. Alongside the strict legal requirements placed on materials that come into contact with food, the Blue Angel requires that baking paper certified with the Blue Angel is tested for pollutants and this also helps to protect the environment and human health.

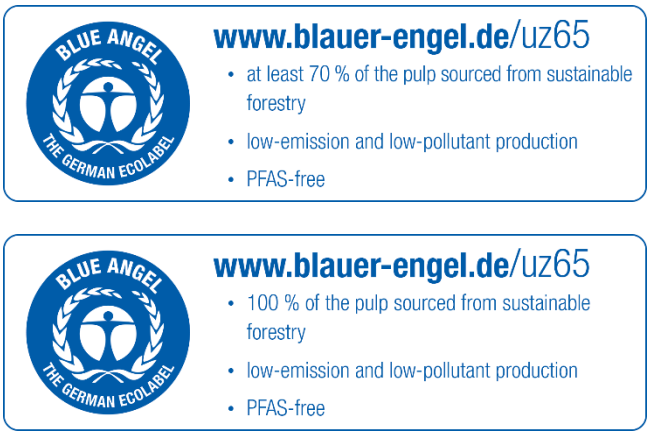
Therefore, following benefits for the environment and health are stated in the explanatory box depending on the type of paper:

- **For cooking and heat-resistant filter paper:**
-





- **For baking paper:**



*PFAS-free can be used until the statutory regulations come into force

1.4 Definitions

Production aids: Substances added during the production of paper to improve the production process or achieve certain properties in the paper. This includes paper refining agents. As they are specifically listed in some of the BfR recommendations, however, these Basic Award Criteria always use both terms "production aids and paper refining agents".

Constituent components are substances or preparations added to the product or primary products and remain there unchanged in order to achieve or influence certain product properties and those required as chemical cleavage products for achieving the product properties. This does not apply to residual monomers that have been reduced to a minimum.

Paper refining agents: see production aids.

Virgin fibres are sourced from wood, unlike secondary fibres that are sourced from recovered paper.

Sales packaging: Packaging that is typically offered to the end consumer with the goods as a sales unit (§3 (1) No.1 VerpackG).

Surface layer: The top layer of the packaging that is printed on.

2 Scope

The Basic Award Criteria apply to the following cooking and heat-resistant filter paper:

- Coffee filter paper and tea filter paper
- Coffee and tea filters

Pre-portioned bags (e.g. tea bags) and filters made of non-woven materials are excluded from the scope of these Basic Award Criteria.

The Basic Award Criteria also apply to the following types of paper used for baking:

- Baking paper (rolls and pre-cut sheets)
- Baking liners (e.g. muffin liners)

3 Requirements

3.1 Requirements for cooking and heat-resistant filter paper

The Blue Angel ecolabel can be used to certify cooking and heat-resistant filter paper if it complies with the following requirements.

3.1.1 Description of the product and the substances used in the paper production process

The applicant must submit the recipe / a description of the composition of the cooking and heat-resistant filter paper. The production aids and paper refining agents and their percentage shares of the finished product (% by mass of the dry paper) must also be stated.
All of the production aids and paper refining agents used in the paper production process must be listed together with their full trade names, their active substance (according to the BfR recommendation) and their function.

Compliance verification

The applicant shall submit the precise recipe for the end product to RAL gGmbH together with an explanation of the function of every individual auxiliary substance in Annex 2. The applicant shall submit a product sample.

3.1.2 BfR Recommendations on Food Contact Materials

The cooking and heat-resistant filter paper must comply with the latest version of Recommendation XXXVI/1. "Cooking Papers, Hot Filter Papers and Filter Layers" from the German Federal Institute for Risk Assessment (BfR).

Compliance verification

The applicant shall declare compliance with the requirement in Annex 1a to the contract.

3.1.3 The use of pulp for the fibres

Only pulp[1] from virgin fibres (including internal production waste) may be used to produce the cooking and heat-resistant filter paper.

Compliance verification

The applicant shall declare compliance with the requirement in Annex 1a to the contract.

3.1.4 Requirements for the origin of the wood for the pulp

The wood used for the production of the pulp must be from controlled sources and at least 70% must be sourced from certified forests that can verify that they are managed in accordance with the principles of ecological and socially responsible forestry management.

Verification of the pulp used in the product must be provided in the form of one of the following certificates:

- Forest Stewardship Council (FSC): FSC Mix or FSC 100 %
- Programme for the Endorsement of Forest Certification Schemes (PEFC): PEFC certified
- or by submitting a comparable certificate whose scope and requirement standards is equivalent to one of the named certification systems. The equivalence of the certification system must be confirmed by an independent environmental verifier.
- Alternatively, individual verifications in accordance with the criteria and verification requirements of one of the named certification systems may be presented if an equivalent level of protection can be achieved. The equivalence of the individual verifications must be confirmed by an independent environmental verifier.

For the wood used in the pulp production process, the tree species including their scientific names (e.g. *Pinus elliottii* for pine) and the geographical location of the forest (country) must be stated.

Compliance verification

The applicant shall declare compliance with the requirement in Annex 2.
The following information must be entered there:

- *the name of the wood used in the pulp production process, the geographical location of the forest and the trading names of the pulp*
- *The name of the certification system used for the pulp and the sales documents (usually the invoice or delivery note) verifying delivery of legitimately certified raw materials.*
  Verification is based on two data points:
  - *A valid certification number and an appropriate scope of certification (e.g. tested via the FSC certificate database) and*
  - *A certification statement on the material.*

FSC, PEFC or systems whose equivalence has been proven will be accepted as verification.

[1] The Basic Award Criteria do not prohibit the use of wood but the applicant must inform RAL gGmbH of its use so that the data can be examined when the Basic Award Criteria are being revised with respect to emissions to waste water and air.

3.1.5 Requirements for the production of the pulp

3.1.5.1 Emissions to waste water in the pulp production process

The applicant must determine the levels of the following chemical substances in the emissions to waste water at the pulp plant (measurement specifications, see Appendix B "Measurement of emissions to waste water"):

- Chemical oxygen demand (COD) in kg O[2] per air dry tonne[3]
  Proportion of chemically oxidising organic compounds in the waste water (usually based on analyses using dichromate oxidation), given as O
- Total nitrogen content in kg N per air dry tonne
  Total-N (Total nitrogen, Tot-N), given as N. This includes organic nitrogen, free ammonia and ammonium (NH_4+-N), nitrites (NO_2--N) and nitrates (NO_3--N).
- Total phosphorous content in kg P per air dry tonne
  Total-P (Tot-P), given as P. This includes both dissolved phosphorous and also undissolved phosphorous which enters the waste water in the form of precipitates or microorganisms.

The following reference values apply to the named substances:

Chemical oxygen demand:	$COD_{Reference}$ = 18.00 kg O/air dry tonne
Total nitrogen content:	$N_{Reference}$ = 0.25 kg N/air dry tonne
Total phosphorous content:	$P_{Reference}$ = 0.030 kg P/air dry tonne

Based on the measurement values, the applicant must calculate so-called emission points (P) for each of the measured substances as a ratio between the measurement value and the reference value as follows:

$$P_{CSB} = \frac{CSB_{Messwert}}{CSB_{Referenz}}$$

$$P_N = \frac{N_{Messwert}}{N_{Referenz}}$$

$$P_P = \frac{P_{Messwert}}{P_{Referenz}}$$

The following requirements apply:
For each of the emission points P_{COD}, P_N and P_P, a value of 1.5 must not be exceed in each case and the sum of the emission points for the emissions to waste water (P_{COD}, P_N and P_P) must not exceed a value of 3.0.

Compliance verification

The applicant shall declare compliance with the requirement in Annex 1a to the contract and submit Annex 9 (emission values) completed by the producers of the pulp. In addition, the applicant shall enclose the test reports as an annex and submit the required supplementary

[2] O stands for oxygen
[3] air dry: air dried pulp

documentation to the contract. The supplementary documentation comprises calculations of the emission points verifying compliance with this requirement.
The test reports must comply with the requirements in the measurement specifications in Appendix B "Measurement of emissions to waste water". The submitted test reports must be produced by a testing laboratory accredited according to DIN EN ISO/IEC 17025 (general requirements for the competence of testing and calibration laboratories) or with official accreditation as a GLP laboratory. In-house laboratories are recognised as being of an equivalent standard when they have been accredited by an independent body as an SMT laboratory (Supervised Manufacturer's Testing Laboratory).

3.1.5.2 Emissions to air in the pulp production process

The emissions to air include those from the recovery boiler, lime kiln, steam boiler and incinerator for strong smelling gases. Diffuse emissions must also be taken into account. The applicant must determine the levels of the following chemical substances in the emissions to air at the pulp plant (measurement specifications, see Appendix B "Measurement of emissions to air"):

- *Gaseous sulphur compounds* (sulphur) in kg S per air dry tonne
  Total reduced sulphur (TRS): Sum of the following reduced bad-smelling sulphur compounds released during the pulp production process: hydrogen sulphide, methyl mercaptan, dimethyl sulphide and dimethyl disulfide, given as S, plus sulphur dioxide (SO_2), given as S
- *Nitrogen oxide* (NO_x) in Kg NO_x per air dry tonne
  Sum of nitrogen oxide (NO) and nitrogen dioxide (NO_2), given as NO_2

- *Dust emissions* (dust) in kg dust per air dry tonne
  Sum of the dust emissions at the recovery boiler and lime kiln, given as dust Solid particles of any form, structure or thickness that are dispersed during the gas phase and remain upstream of a defined filter after drying under specified conditions (according to DIN EN 13284-1).

The following reference values apply to the named substances:

- *Gaseous sulphur compounds*: $Sulphur_{Reference}$ = 0.6 kg S/air dry tonne
- *Nitrogen oxide*: $NO_{xReference}$ = 1.5 kg NO/air dry tonne

Based on the measurement values, the applicant must calculate so-called emission points (P) for each of the measured substances as a ratio between the measurement value and the reference value as follows:

$$P_{Schwefel} = \frac{Schwefel_{Messwert}}{Schwefel_{Referenz}}$$

$$P_{NOx} = \frac{NOx_{Messwert}}{NOx_{Referenz}}$$

The following requirements apply:
For each of the emission points $P_{Sulphur}$ and P_{NOx}, a value of 1.5 must not be exceed in each case and the sum of the emission points for the emissions to air ($P_{Sulphur}$ and P_{NOx}) must not exceed a value of 2.0.

Dust emissions must not exceed the limit value of 0.35 kg dust/air dry tonne.

Compliance verification

The applicant shall declare compliance with the requirement in Annex 1a to the contract and submit Annex 9 (emission values) completed by the producers of the pulp. In addition, the applicant shall enclose the test reports as an annex and submit the required supplementary documentation to the contract. The supplementary documentation comprises calculations of the emission points verifying compliance with this requirement.
The test reports must comply with the requirements in the measurement specifications in Appendix C "Measurement of emissions to air". The submitted test reports must be produced by a testing laboratory accredited according to DIN EN ISO/IEC 17025 (general requirements for the competence of testing and calibration laboratories) or with official accreditation as a GLP laboratory[4]. In-house laboratories are recognised as being of an equivalent standard when they have been accredited by an independent body as an SMT laboratory (Supervised Manufacturer's Testing Laboratory).

3.1.5.3 Energy consumption in the pulp production process

The specific energy consumption in the pulp production process must not exceed the following limit values:

- Electrical energy: ≤1,100 kWh/air dry tonne
- Heating energy: ≤7,900 kWh/air dry tonne

a) Electrical energy (electricity):
The electricity consumed in the production of the pulp must be measured over a period of 12 months and stated in relation to the pulp produced (air dry tonnes) during this period.

The electricity consumption is calculated as follows:

Electricity consumption = electricity generated at the plant
plus the electricity purchased from outside of the plant
less the electricity sold outside of the plant
less the electricity consumed at the treatment plant
less the electricity consumed for processes not related to the pulp production at the plant

b) Heating energy (fuel):
The heating energy consumed in the production of the pulp must be measured over a period of 12 months and stated in relation to the pulp produced (air dry tonnes) during this period. Heating energy can be in the form of gaseous, liquid or solid fuels (e.g. natural gas, heating oil, biomass)

[4] Principles of good laboratory practice are defined in a series of publications by the OECD (Organisation for Economic Co-operation and Development): https://www.oecd-ilibrary.org/environment/oecd-series-on-principles-of-good-laboratory-practice-and-compliance-monitoring_2077785x

or in the form of heat transfer media (e.g. water, steam). For the energy content of the fuel, the lower heating value (LHV) for the relevant fuel is used. In the case of damp fuels (e.g. wood, biomass), the effective calorific value (after subtracting the evaporation energy of the enclosed water) is used, while the effective energy content is used for heat transfer media.

The heating energy consumption is calculated as follows:

Heating energy consumption = fuel produced at the plant
plus the purchased heating energy or fuel
less the heating energy or fuel sold
less 1.25 x the electricity generated at the plant
less heating energy consumed for processes not related to the pulp production at the plant

Note:
The heating energy includes all fuels used (their lower heat value) and the heating energy recovered from the incineration of pulping liquors and waste at the production site (e.g. waste wood, sawdust, pulping liquor, waste paper, rejected paper), as well as the heating energy recovered from the plant's own electricity generation. The applicant must present the calculation for the energy consumption in the pulp production process in the form of an energy statement together with the calculation parameters used. If the applicant does not have their own heat values for the fuels used, the heat values documented in the Nordic ecolabel for paper products (Nordic Swan Ecolabel)[5] may be used.

Compliance verification

The applicant shall state the specific energy consumption (Annex 2) and declare compliance with the requirement in Annex 1a to the contract. In addition, the applicant shall submit an energy statement, which documents the energy consumption over a period of 12 months, the heat values for the relevant fuels used, the annual production of the pulp and the calculation of the specific energy consumption values.

3.1.5.4 Ban on bleaching in the pulp production process

The fibres used for the products may not be bleached.

Compliance verification

The applicant shall declare compliance with the requirement in Annex 1a to the contract and submit a declaration from the pulp producer (Annex 7a).

3.1.6 Requirements for the paper production process

3.1.6.1 Requirements for waste water from the paper production process

The following requirements apply with respect to waste water:

[5] Refer to the latest version of the "Nordic Ecolabelling for Paper Products – Basic Module" (https://www.svanen.se/en/for-companies/criteria-application/paper-modules/; last accessed on 06/05/2024)

3.1.6.1.1 Direct discharge

In the production of filter paper, the emission limits in Table 1: Maximum limits for the average annual emission parameters (waste water) in the paper production process that are based on the lower emission limits in the "Best Available Techniques (BAT) Reference Document for the Production of Pulp, Paper and Board"[6] from the EU Commission must be complied with by direct dischargers[7].

Table 1: Maximum limits for the average annual emission parameters (waste water) in the paper production process

Parameter	Maximum permissible value
Volumetric flow rate of waste water	10 m3/Adt*
COD	0.40 kg/Adt
BSB5	0.15 kg/Adt or 25 mg/l
Filterable substances	0.20 kg/Adt
AOX	< 0.01 kg/Adt
Total N (inorganic + organic N) (TNb**)	0.05 kg/Adt or 15 mg/l
Total P	0.003 kg/Adt or 1 mg/l

* Adt = air dried ton

** TNb = total nitrogen bound. This parameter defines the total pollution of water by nitrogen compounds, which can appear in the form of e.g. ammonia, nitrites, nitrates or organic nitrogen compounds. A suitable method for determining this parameter is DIN EN 12260.

Compliance verification

If the manufacturer of the filter paper is a direct discharger, he/she shall declare compliance with the emission limits according to Table 1: Maximum limits for the average annual emission parameters (waste water) in the paper production process in Annex 1a to the contract and state the measured emission values in Annex 4 to the contract.

3.1.6.1.2 Indirect discharge

Indirect dischargers must comply with the limit values in Table 1: Maximum limits for the average annual emission parameters (waste water) in the paper production process.

Compliance verification

If the manufacturer is an indirect discharger, he/she shall declare compliance with the limit values in Annex 1a. The volumetric flow rate of waste water and the AOX value at the mixing location must be stated in Annex 2.
The manufacturer shall submit a confirmation from the operator of the waste water treatment plant that provided the emission values for the other parameters in the downstream waste water treatment plant as Annex 5 to the contract (mixed values for all dischargers).

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[6] BREF, Best Available Techniques Reference Document: Best Available Techniques (BAT) Reference Document for the Production of Pulp, Paper and Board (09/2014); https://www.umweltbundesamt.de/themen/wirtschaft-konsum/beste-verfuegbare-techniken/sevilla-prozess/bvt-merkblaetter-durchfuehrungsbeschluesse

[7] As there are no reference values available for cooking and heat-resistant filter paper, the values for tissue paper were used.

The correctness of the data on the waste water provided in Annexes 2 and 5 to the contract shall be verified for both direct dischargers and indirect dischargers at the time of application and then once a year in accordance with Annex 6 to the Basic Award Criteria by:

- *a certification body for ISO 14001 accredited by the German Accreditation Body (DAkkS) for the scope of paper manufacturers (NACE 17.12) or*
- *an environmental verifier approved for this scope (NACE 17.12) by the German Society for the Accreditation and Registration of Environmental Verifiers (DAU) in accordance with the Environmental Audit Act or*
- *an accredited FSC/PEFC certifier or*
- *an expert recognised by the UBA in the areas of fibrous raw materials, grades of recovered paper, the recycling of recovered paper and waste water treatment.*

3.1.6.2 Requirements for energy consumption and the origin of the electricity for the paper production process

The paper industry is one of the most energy-intensive industries, which is why it is important to further reduce the consumption of heat and electricity at the production sites and switch to environmentally friendly/friendlier energy sources.

For the production of cooking and heat-resistant filter paper, the following limits for the consumption of electricity and process heat must not be exceeded as an annual average:

- Electrical power: ≤800 kWh/t paper
- Process heat: ≤1,700 kWh/t paper

The sum of the process heat and electrical power is permitted to exceed the limit by a total of 10 %.

In addition, the applicant must state the energy mix used at the plant based on the type and origin of the energy. The consumed electricity should be sourced from renewable energies.

Compliance verification

The manufacturer of the cooking and heat-resistant filter paper shall declare compliance with the required energy consumption values in Annex 1a to the contract and state the measured energy consumption values and the measurement period used in Annex 2. In addition, the manufacturer shall state all of the energy sources used, their proportions and origins (own generation/third-part generation) and the proportion of green electricity in the electricity consumed (notifications from the energy supply company) and, if relevant, the proportion of self-generated green electricity.

3.1.6.3 Requirements for waste generated in the paper production process

To promote the avoidance of waste and in the spirit of a circular economy, the waste generated during the production process must be minimised. The waste materials must be recycled as far as possible.
The following waste materials can be generated in the production of the cooking and heat-resistant filter paper:

- Fibrous sludge
- Sludge from the treatment of the process water

Compliance verification

The applicant shall state the quantities of the above-named waste fractions per tonne of product (as a dry mass) that are generated during the production of the cooking and heat-resistant filter paper in Annex 2 to the contract. The paper manufacturer shall describe how the waste materials are recycled.

3.1.7 General substance requirements

No substances may be added as production aids and paper refining agents that contain constituent components with the following properties:

a) It is prohibited to add substances of very high concern (SVHC) that have been identified as being particularly alarming in accordance with Article 57, Paragraph 1 of the REACH Regulation and added to the so-called "candidate list" according to Article 59, Paragraph 1 of the same regulation[8].

b) No substances that according to the CLP Regulation have been classified in the following hazard categories or which meet the criteria for such classification may be added:
   - toxic to specific target organs in categories STOT SE 1, STOT SE 2, STOT RE 1 or STOT RE 2
   - 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, Repr. 2 or Lact.
   - endocrine disruptors with a negative effect on human health in the categories ED HH 1 or ED HH 2
   - endocrine disruptors with a negative effect on the environment in the categories ED ENV 1 or ED ENV 2
   - persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) characteristics
   - persistent, mobile and toxic (PMT) or very persistent, very mobile (vPvM) characteristics

c) Substances that are classified in TRGS 905 as:
   - carcinogenic (K1A, K1B, K214)
   - mutagenic (M1A, M1B, M2)
   - reprotoxic (RF1A, RF1B, RF2, RD1A, RD1B, RD2)

The hazard statements (H Phrases) that correspond to the hazard categories can be found in Table 3: Hazard categories for the general exclusion of substances and their corresponding hazard statements (H Phrases) according to the CLP Regulation (EC) No. 1272/2008 in Appendix D.

[8] 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 an ingredient used by the label holder is newly added to the list of candidates during the term of the Basic Award Criteria, the label holder must submit an informal notification within one month stating the name of the substance, its CAS or EC number and possible substitutes. The licence holder will then be given a deadline to substitute this ingredient.

Compliance verification

The applicant shall declare compliance with the requirement in Annex 1a to the contract.
The applicant shall verify compliance with the requirement by submitting declarations from the suppliers of the production aids and paper refining agents in accordance with Annex 3 to the contract. The applicant shall also enclose the associated safety data sheets.

3.1.8 Exclusion of certain substances and substance groups

3.1.8.1 Halogenated compounds

No halogenated compounds may be used in the production of the paper, except for the production aids approved in BfR Recommendation XXXVI/1. "Cooking Papers, Hot Filter Papers and Filter Layers".

3.1.8.2 Complexing agents, glyoxal and formaldehyde

No complexing agents may be used in the production of the paper and no chemical aids that contain glyoxal or formaldehyde as a constituent component or which can cleave to form formaldehyde may be used.

Compliance verification for Paragraph 3.1.8

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

3.1.9 Compostability

The compostability of the cooking and heat-resistant filter paper must be verified under industrial composting conditions in accordance with DIN EN 13432.

Compliance verification

The applicant shall submit a test report according to DIN EN 13432 completed by an independent testing institution that works in accordance with ISO 17025 to verify the compostability of the paper.

3.1.10 Instructions for end consumers

Instructions printed on the packaging must inform the end consumer that coffee and tea filters can be composted along with their contents in organic waste bins.

Compliance verification

The applicant shall declare compliance with the requirement in Annex 1a to the contract and submit a sample of the packaging.

3.1.11 Sales packaging

Paper, paperboard or cardboard where at least 90% of the fibres are sourced from recycled materials should be used for the sales packaging. Pulp from virgin fibres used for the surface layer must be sourced from sustainable forestry (see the requirement in Paragraph 3.1.4).

Compliance verification

The applicant shall declare compliance with the requirement in Annex 1a to the contract and verify compliance by submitting a written declaration from the suppliers. The applicant shall also submit a sample of the packaging.

3.2 Requirements for baking paper

3.2.1 Description of the product and the substances used in the paper production process

The applicant must submit the recipe / a description of the composition of the baking paper. The production aids and paper refining agents and their percentage shares of the finished product (% by mass of the dry paper) must also be stated.
All of the production aids and paper refining agents used in the paper production process must be listed together with their full trade names, their active substance (according to the BfR recommendation) and their function.

Compliance verification

The applicant shall submit the precise recipe for the end product to RAL gGmbH together with an explanation of the function of every individual auxiliary substance in Annex 2. The applicant shall submit a product sample.

3.2.2 BfR Recommendations on Food Contact Materials

The baking paper must comply with Recommendation XXXVI/2. "Paper and Paperboard for Baking Purposes" from the German Federal Institute for Risk Assessment (BfR).

Compliance verification

The applicant shall declare compliance with the requirement in Annex 1b to the contract.

3.2.3 The use of pulp for the fibres

Only pulp[9] from virgin fibres (including internal production waste) may be used to produce the baking paper.

Compliance verification

The applicant shall declare compliance with the requirement in Annex 1b to the contract.

3.2.4 Requirements for the origin of the wood for the pulp

The wood used for the production of the pulp must be from controlled sources and at least 70% must be sourced from certified forests that can verify that they are managed in accordance with the principles of ecological and socially responsible forestry management.

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[9] The Basic Award Criteria do not prohibit the use of wood but the applicant must inform RAL gGmbH of its use so that the data can be examined when the Basic Award Criteria are being revised with respect to emissions to waste water and air.

Verification of the pulp used in the product must be provided in the form of one of the following certificates:

- Forest Stewardship Council (FSC): FSC Mix or FSC 100 %
- Programme for the Endorsement of Forest Certification Schemes (PEFC): PEFC certified
- or by submitting a comparable certificate whose scope and requirement standards is equivalent to one of the named certification systems. The equivalence of the certification system must be confirmed by an independent environmental verifier.
- Alternatively, individual verifications in accordance with the criteria and verification requirements of one of the named certification systems may be presented if an equivalent level of protection can be achieved. The equivalence of the individual verifications must be confirmed by an independent environmental verifier.

For the wood used in the pulp production process, the tree species including their scientific names (e.g. *Pinus elliottii* for pine) and the geographical location of the forest (country) must be stated.

Compliance verification

The applicant shall declare compliance with the requirement in Annex 2.
The following information must be entered there:

- *the name of the wood used in the pulp production process, the geographical location of the forest and the trading names of the pulp*
- *The name of the certification system used for the pulp and the sales documents (usually the invoice or delivery note) verifying delivery of legitimately certified raw materials.*
- *Verification is based on two data points:*
  - *A valid certification number and an appropriate scope of certification (e.g. tested via the FSC certificate database) and*
  - *A certification statement on the material.*

FSC, PEFC or systems whose equivalence has been proven will be accepted as verification.

3.2.5 Requirements for the production of the pulp

3.2.5.1 Emissions to waste water in the pulp production process

Strict requirements apply to the emissions to waste water during the production of the unbleached pulp used in the baking paper. Pulp plants usually have their own waste water treatment plants and are thus direct dischargers. The applicant must determine the levels of the following chemical substances in the emissions to waste water at the pulp plant (measurement specifications, see Appendix B "Measurement of emissions to waste water"):

- Chemical oxygen demand (COD) in kg O[10] per air dry tonne[11]
- Proportion of chemically oxidising organic compounds in the waste water (usually based on analyses using dichromate oxidation), given as O
- Total nitrogen content in kg N per air dry tonne

[10] O stands for oxygen
[11] air dry: air dried pulp

- Total-N (Total nitrogen, Tot-N), given as N. This includes organic nitrogen, free ammonia and ammonium (NH_4+-N), nitrites (NO_2--N) and nitrates (NO_3--N).
- Total phosphorous content in kg P per air dry tonne
- Total-P (Tot-P), given as P. This includes both dissolved phosphorous and also undissolved phosphorous which enters the waste water in the form of precipitates or microorganisms.

The following reference values apply to the named substances:

Chemical oxygen demand:	$COD_{Reference}$ = 8.00 kg O/air dry tonne
Total nitrogen content:	$N_{Reference}$ = 0.2 kg N/air dry tonne
Total phosphorous content:	$P_{Reference}$ = 0.02 kg P/air dry tonne

Based on the measurement values, the applicant must calculate so-called emission points (P) for each of the measured substances as a ratio between the measurement value and the reference value as follows:

$$P_{CSB} = \frac{CSB_{Messwert}}{CSB_{Referenz}}$$

$$P_N = \frac{N_{Messwert}}{N_{Referenz}}$$

$$P_P = \frac{P_{Messwert}}{P_{Referenz}}$$

The following requirements apply:
For each of the emission points P_{COD}, P_N and P_P, a value of 1.5 must not be exceed in each case and the sum of the emission points for the emissions to waste water (P_{COD}, P_N and P_P) must not exceed a value of 3.0.

Compliance verification

The applicant shall declare compliance with the requirement in Annex 1b to the contract and submit Annex 9 (emission values) completed by the producers of the pulp. In addition, the applicant shall enclose the test reports as an annex and submit the required supplementary documentation to the contract. The supplementary documentation comprises calculations of the emission points verifying compliance with this requirement.
The test reports must comply with the requirements in the measurement specifications in Appendix B "Measurement of emissions to waste water". The submitted test reports must be produced by a testing laboratory accredited according to DIN EN ISO/IEC 17025 (general requirements for the competence of testing and calibration laboratories) or with official accreditation as a GLP laboratory. In-house laboratories are recognised as being of an equivalent standard when they have been accredited by an independent body as an SMT laboratory (Supervised Manufacturer's Testing Laboratory).

3.2.5.2 Emissions to air in the pulp production process

The emissions to air include those from the recovery boiler, lime kiln, steam boiler and incinerator for strong smelling gases. Diffuse emissions must also be taken into account. The applicant must determine the levels of the following chemical substances in the emissions to air at the pulp plant (measurement specifications, see Appendix B "Measurement of emissions to air"):

- Gaseous sulphur compounds (sulphur) in kg S per air dry tonne
- Total reduced sulphur (TRS): Sum of the following reduced bad-smelling sulphur compounds released during the pulp production process: hydrogen sulphide, methyl mercaptan, dimethyl sulphide and dimethyl disulfide, given as S, plus sulphur dioxide (SO_2), given as S
- Nitrogen oxide (NOx) in Kg NOx per air dry tonne
- Sum of nitrogen oxide (NO) and nitrogen dioxide (NO_2), given as NO_2
- Dust emissions (dust) in kg dust per air dry tonne
- Sum of the dust emissions at the recovery boiler and lime kiln, given as dust Solid particles of any form, structure or thickness that are dispersed during the gas phase and remain upstream of a defined filter after drying under specified conditions. According to DIN EN 13284 - 1

The following reference values apply to the named substances:
- Gaseous sulphur compounds: $Sulphur_{Reference}$ = 0.35 kg S/air dry tonne
- Nitrogen oxide: $NO_{xReference}$ = 1.5 kg NO/air dry tonne

Based on the measurement values, the applicant must calculate so-called emission points (P) for each of the measured substances as a ratio between the measurement value and the reference value as follows:

$$P_{Schwefel} = \frac{Schwefel_{Messwert}}{Schwefel_{Referenz}}$$

$$P_{NOx} = \frac{NOx_{Messwert}}{NOx_{Referenz}}$$

The following requirements apply:
For each of the emission points $P_{Sulphur}$ and P_{NOx}, a value of 1.5 must not be exceed in each case and the sum of the emission points for the emissions to air ($P_{Sulphur}$ and P_{NOx}) must not exceed a value of 2.0.

Dust emissions must not exceed the limit value of 0.33 kg dust/air dry tonne.

Compliance verification

The applicant shall declare compliance with the requirement in Annex 1b to the contract and submit Annex 9 (emission values) completed by the producers of the pulp. In addition, the applicant shall enclose the test reports as an annex and submit the required supplementary

documentation to the contract. The supplementary documentation comprises calculations of the emission points verifying compliance with this requirement.
The test reports must comply with the requirements in the measurement specifications in Appendix C "Measurement of emissions to air". The submitted test reports must be produced by a testing laboratory accredited according to DIN EN ISO/IEC 17025 (general requirements for the competence of testing and calibration laboratories) or with official accreditation as a GLP laboratory[12]. In-house laboratories are recognised as being of an equivalent standard when they have been accredited by an independent body as an SMT laboratory (Supervised Manufacturer's Testing Laboratory).

3.2.5.3 Energy consumption in the pulp production process

The specific energy consumption in the pulp production process must not exceed the following limit values:
Electrical energy: ≤800 kWh/air dry tonne
Heating energy: ≤7,000 kWh/air dry tonne

The sum of the process heat and electrical power is permitted to exceed the limit by a total of 10 %.

a) Electrical energy (electricity)
The electricity consumed in the production of the pulp must be measured over a period of 12 months and stated in relation to the pulp produced (air dry tonnes) during this period.

The electricity consumption is calculated as follows:

Electricity consumption = electricity generated at the plant
plus the electricity purchased from outside of the plant
less the electricity sold outside of the plant
less the electricity consumed at the treatment plant
less the electricity consumed for processes not related to the pulp production at the plant

b) Heating energy (fuel)
The heating energy consumed in the production of the pulp must be measured over a period of 12 months and stated in relation to the pulp produced (air dry tonnes) during this period. Heating energy can be in the form of gaseous, liquid or solid fuels (e.g. natural gas, heating oil, biomass) or in the form of heat transfer media (e.g. water, steam). For the energy content of the fuel, the lower heating value (LHV) for the relevant fuel is used. In the case of damp fuels (e.g. wood, biomass), the effective calorific value (after subtracting the evaporation energy of the enclosed water) is used, while the effective energy content is used for heat transfer media.

[12] Principles of good laboratory practice are defined in a series of publications by the OECD (Organisation for Economic Co-operation and Development): https://www.oecd-ilibrary.org/environment/oecd-series-on-principles-of-good-laboratory-practice-and-compliance-monitoring_2077785x

The heating energy consumption is calculated as follows:

Heating energy consumption = fuel produced at the plant
plus the purchased heating energy or fuel
less the heating energy or fuel sold
less 1.25 x the electricity generated at the plant
less heating energy consumed for processes not related to the pulp production at the plant

Note:
The heating energy includes all fuels used (their lower heat value) and the heating energy recovered from the incineration of pulping liquors and waste at the production site (e.g. waste wood, sawdust, pulping liquor, waste paper, rejected paper), as well as the heating energy recovered from the plant's own electricity generation. The applicant must present the calculation for the energy consumption in the pulp production process in the form of an energy statement together with the calculation parameters used. If the applicant does not have their own heat values for the fuels used, the heat values documented in the Nordic ecolabel for paper products (Nordic Swan Ecolabel)[13] may be used.

Compliance verification

The applicant shall state the specific energy consumption (Annex 2) and declare compliance with the requirement in Annex 1b to the contract. In addition, the applicant shall submit an energy statement, which documents the energy consumption over a period of 12 months, the heat values for the relevant fuels used, the annual production of the pulp and the calculation of the specific energy consumption values.

3.2.5.4 Bleaching method used in the pulp production process

In the production of the pulp, the following requirements apply to the bleaching method:

- The pulp must not be bleached using elementary chlorine.
- The specific amounts of poorly biodegradable complexing agents (ethylenediaminetetraacetic acid (EDTA) and diethylenetriaminepentaacetic acid (DTPA)) must be stated in kg per air dry tonne, expressed as an annual average.
- A total chlorine free (TCF) process is preferred for the bleaching method, although an elemental chlorine free (ECF) process is permitted. In this case, the specific amount of bleaching agent consumed, expressed as an annual average, must be stated in kilograms of ClO_2 per air dry tonne. The adsorbable organically combined halogens (AOX) must be measured in the waste water. The annual average for the measured AOX emissions to waste water must not exceed a value of 0.10 kg AOX per air dry tonne.

Compliance verification

The applicant shall declare compliance with the requirement in Annex 1b to the contract and submit a declaration from the pulp producer as Annex 7b to the contract stating the bleaching method and verifying that no elemental chlorine is used in the bleaching method. In addition,

[13] Nordic Swan Ecolabel: Paper modules. https://www.svanen.se/en/for-companies/criteria-application/paper-modules/

the pulp producer shall state the specific amounts of EDTA and DTPA consumed, as well as the bleaching agent.
If chlorine compounds (e.g. ClO_2) are added to the bleach for the pulp, the applicant shall submit a test report for the AOX emissions to waste water. One of the test methods ISO 9562, EN 1485, DIN 38409 Part 14 or the equivalent EPA 1650C must be used for measuring the AOX emissions. The measurements shall be carried out over a production period of 12 months, with measurements taken on at least a monthly basis.
The submitted test reports must be produced by a testing laboratory accredited according to DIN EN ISO/IEC 17025 (general requirements for the competence of testing and calibration laboratories) or with official accreditation as a GLP laboratory.
In-house laboratories are recognised as being of an equivalent standard when they have been accredited by an independent body as an SMT laboratory (Supervised Manufacturer's Testing Laboratory).

3.2.6 Requirements for the paper production process

3.2.6.1 Requirements for waste water from the paper production process

The following requirements apply with respect to waste water:

3.2.6.1.1 Direct discharge

In the production of baking paper, the emission limits in Table 2 that are based on the lower emission limits in the "Best Available Techniques (BAT) Reference Document for the Production of Pulp, Paper and Board"[14] from the EU Commission for the production of special paper must be complied with by direct dischargers.
Table 2: Maximum limits for the average annual emission parameters (waste water) in the production process for special paper

Parameter	**Maximum permissible value**
Volumetric flow rate of waste water	20 m3/Adt*
COD	3.0 kg/Adt
BSB5	0.15 kg/Adt or 25 mg/l
Filterable substances	1.0 kg/Adt
AOX	< 0.01 kg/Adt
Total N (inorganic + organic N) (TNb**)	0.07 kg/Adt or 15 mg/l
Total P	0.008 kg/Adt or 1.2 mg/l

* Adt = air dried ton
** TNb = total nitrogen bound. This parameter defines the total pollution of water by nitrogen compounds, which can appear in the form of e.g. ammonia, nitrites, nitrates or organic nitrogen compounds. A suitable method for determining this parameter is DIN EN 12260.

[14] BREF, Best Available Techniques Reference Document: Best Available Techniques (BAT) Reference Document for the Production of Pulp, Paper and Board (09/2014); https://www.umweltbundesamt.de/themen/wirtschaft-konsum/beste-verfuegbare-techniken/sevilla-prozess/bvt-merkblaetter-durchfuehrungsbeschluesse

Compliance verification

If the manufacturer of the baking paper is a direct discharger, he/she shall declare compliance with the emission limits according to Table 2 in Annex 1b to the contract and state the measured emission values in Annex 4 to the contract.

3.2.6.1.2 Indirect discharge

Indirect dischargers must comply with the limit values Table 2.

Compliance verification

If the manufacturer is an indirect discharger, he/she shall declare compliance with the limit values in Annex 1b. The volumetric flow rate of waste water and the AOX value at the mixing location must be stated in Annex 2.
The manufacturer shall submit a confirmation from the operator of the waste water treatment plant that provided the emission values for the other parameters in the downstream waste water treatment plant as Annex 5 to the contract (mixed values for all dischargers).
The correctness of the data on the waste water provided in Annexes 2 and 4 to the contract shall be verified for both direct dischargers and indirect dischargers at the time of application and then once a year in accordance with Annex 6 to the Basic Award Criteria by:

- *a certification body for ISO 14001 accredited by the German Accreditation Body (DAkkS) for the scope of paper manufacturers (NACE 17.12) or*
- *an environmental verifier approved for this scope (NACE 17.12) by the German Society for the Accreditation and Registration of Environmental Verifiers (DAU) in accordance with the Environmental Audit Act or*
- *an accredited FSC/PEFC certifier or*
- *an expert recognised by the UBA in the areas of fibrous raw materials, grades of recovered paper, the recycling of recovered paper and waste water treatment.*

3.2.6.2 Requirements for energy consumption and the origin of the electricity for the paper production process

The paper industry is one of the most energy-intensive industries in Germany, which is why it is important to further reduce the consumption of heat and electricity at the production sites and switch to environmentally friendly/friendlier energy sources.

For the production of baking paper, the following limits for the consumption of electricity and process heat must not be exceeded as an annual average:
Electrical power: ≤2,500 kWh/t paper
Process heat: ≤5,100 kWh/t paper

The sum of the process heat and electrical power is permitted to exceed the limit by a total of 10 %.

In addition, the applicant must state the energy mix used at the plant based on the type and origin of the energy. The consumed electricity should be sourced from renewable energies.

Compliance verification

The manufacturer of the baking paper shall declare compliance with the required energy consumption values in Annex 1b to the contract and state the measured energy consumption values and the measurement period used in Annex 2. In addition, the manufacturer shall state all of the energy sources used, their proportions and origins (own generation/third-part generation) and the proportion of green electricity in the electricity consumed (notifications from the energy supply company) and, if relevant, the proportion of self-generated green electricity.

3.2.6.3 Requirements for waste generated in the paper production process

To promote the avoidance of waste and in the spirit of a circular economy, the waste generated during the production process must be minimised. The waste materials must be recycled as far as possible.
The following waste materials can be generated in the production of the baking paper:

- Fibrous sludge
- Sludge from the treatment of the process water

Compliance verification

The applicant shall state the quantities of the above-named waste fractions per tonne of product (as a dry mass) that are generated during the production of the baking paper in Annex 2 to the contract. The paper manufacturer shall describe how the waste materials are recycled.

3.2.7 General substance requirements

No substances may be added as production aids and paper refining agents that contain constituent components with the following properties:

a) It is prohibited to add substances of very high concern (SVHC) that have been identified as being particularly alarming in accordance with Article 57, Paragraph 1 of the REACH Regulation and added to the so-called "candidate list" according to Article 59, Paragraph 1 of the same regulation[15].
b) No substances that according to the CLP Regulation have been classified in the following hazard categories or which meet the criteria for such classification may be added:
   - toxic to specific target organs in categories STOT SE 1, STOT SE 2, STOT RE 1 or STOT RE 2
   - 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, Repr. 2 or Lact.
   - endocrine disruptors with a negative effect on human health in the categories ED HH 1 or ED HH 2

[15] 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 an ingredient used by the label holder is newly added to the list of candidates during the term of the Basic Award Criteria, the label holder must submit an informal notification within one month stating the name of the substance, its CAS or EC number and possible substitutes. The licence holder will then be given a deadline to substitute this ingredient.

- endocrine disruptors with a negative effect on the environment in the categories ED ENV 1 or ED ENV 2
- persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) characteristics
- persistent, mobile and toxic (PMT) or very persistent, very mobile (vPvM) characteristics

c) Substances that are classified in TRGS 905 as:
- carcinogenic (K1A, K1B, K214)
- mutagenic (M1A, M1B, M2)
- reprotoxic (RF1A, RF1B, RF2, RD1A, RD1B, RD2)

The hazard statements (H Phrases) that correspond to the hazard categories can be found in Table 3 in Appendix D.

Compliance verification

The applicant shall declare compliance with the requirement in Annex 1b to the contract.
The applicant shall verify compliance with the requirement by submitting declarations from the suppliers of the production aids and paper refining agents in accordance with Annex 3 to the contract. The applicant shall also enclose the associated safety data sheets.

3.2.8 Exclusion of certain substances and substance groups

3.2.8.1 Fluorinated substances

No fluorinated substances may be used. As fluorochemicals may be present in the paper as general impurities, the baking paper must be tested to determine the total organic fluorine (TOF) in the product. The threshold value for total organic fluorine defined by the Danish Veterinary and Food Administration of 20 µg TOF/g of paper applies.

3.2.8.2 Other halogenated compounds

Alongside the ban on fluorinated substances, only those halogenated substances that have been approved as production aids in BfR Recommendation XXXVI/2. "Paper and Paperboard for Baking Purposes" may be used.

3.2.8.3 Substances containing chromium

No substances containing chromium may be used.

3.2.8.4 Optical brighteners

No optical brighteners may be used.

3.2.8.5 Alkylphenol ethoxylates

The process chemicals may not contain any alkylphenol ethoxylates and/or their derivatives.

3.2.8.6 Complexing agents, glyoxal and formaldehyde

No complexing agents may be used in the production of the paper and no chemical aids that contain glyoxal or formaldehyde as a constituent component or which can cleave to form formaldehyde may be used.

Compliance verification

The applicant shall declare compliance with the requirements in Annex 1b.
In order to verify the total organic fluorine (TOF) for Paragraph 3.2.8.1, the applicant shall submit a test report according to EN ISO 10304-1 that indicates compliance with the threshold value for total organic fluorine defined by the Danish Veterinary and Food Administration of 20 µg TOF/g of paper. As inorganic fluorine can cause elevated measurement values when analysing the total organic fluorine and produce extractable organic fluorine, it is important to check whether the inorganic fluorine was taken into account in the analysis.

3.2.9 Requirements for the silicone coating

If the paper is coated with silicone, the following requirements apply:

- Silicone coatings containing solvents must not be used.
- The chemicals used in the silicone treatment must not contain either octamethylcyclotetrasiloxane D4 (CAS 556-67-2), decamethylcyclopentasiloxane D5 (CAS 541-02-6) or dodecamethylcyclohexasiloxane D6 (CAS 540-97-6)
  Impurities of D4, D5 and D6 of less than 800 ppm (proportion by mass) are exempt from this requirement.
- The use of organotin compounds as a catalyst is not permitted in the production of the silicone polymers.

Compliance verification

The applicant shall declare compliance with the requirement in Annex 1b to the contract and submit a declaration from the silicone manufacturer as Annex 10 to the contract stating the type of silicone used and verifying compliance with the requirements.

3.2.10 Instructions for end consumers

The packaging must contain the following instructions:

- Instructions that the product can be used multiple times.
- Instructions on the correct disposal of the baking paper as residual waste.

Note:
The instructions on the correct disposal of the baking paper as residual waste do not apply to baking paper without a silicone coating. The packaging can state that baking paper without a silicone coating can be composted, as long as the applicant complies with the requirements in Paragraph 3.2.9.

Compliance verification

The applicant shall declare compliance with the requirement in Annex 1b to the contract and submit a sample of the packaging. In the case of baking paper without a silicone coating, the sentence "The baking paper is compostable in organic waste bins" can be printed on the packaging.

3.2.11 Sales packaging

Paper, paperboard or cardboard where at least 90% of the fibres are sourced from recycled materials should be used for the sales packaging. Pulp from virgin fibres used for the surface layer must be sourced from sustainable forestry (see the requirement in Paragraph 3.2.4).

Compliance verification

The applicant shall declare compliance with the requirement in Annex 1b to the contract and verify compliance by submitting a written declaration from the suppliers and, if necessary, further verifications in Annex 8.

3.3 Outlook

The following points will be taken into account, where possible, in future revisions of these Basic Award Criteria:

- The possibility of only using wood for the production of the pulp that is sourced 100% from certified forests will be examined.
- The requirements placed on the production of the unbleached pulp for cooking and heat-resistant filter paper will be reviewed.
- The requirements placed on the compostability of the cooking and heat-resistant filter paper will be examined to determine whether they should be expanded.
- The possibility of only using unbleached pulp for the production of baking paper will be examined.
- Due to the high amount of energy consumed in the production of baking paper, any measures for reducing energy consumption will be examined.
- Whether an analysis method can be used to verify compliance with the limits for cyclosiloxane in the silicone coating will be investigated.
- Expanding the packaging requirements to include grouped packaging and transport packaging will be examined.

4 Applicants and Parties Involved

Manufacturers 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, 2028.
They shall be extended by periods of one year each, unless terminated in writing by March 31, 2028 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)
- Brand/trade name, product description
- Distributor (label user), i.e. the above-mentioned marketing organisations.

Appendix A Cited legislations and standards, literature

The currently valid versions of the relevant regulations and standards at the time of application apply, unless reference is made to a particular version of the regulation or standard in the criteria.

Best Available Techniques (BAT) Reference Document for the Production of Pulp, Paper and Board: Suhr, Michael; Klein, Gabriele; Kourti, Ioanna; Rodrigo, Miguel; Germán Giner Santonja, Gonzalo; Roudier, Serge; Delgado Sancho, Luis (2015); JRC Science and Policy Reports; https://www.umweltbundesamt.de/sites/default/files/medien/367/dokumente/papier_ue_s.pdf, last checked on 18/07/2024

German Federal Institute for Risk Assessment (BfR): Recommendation XXXVI. "Paper and board for food contact"; https://www.bfr.bund.de/cm/343/XXXVI-Papiere--Kartons-und-Pappen-fuer-den-Lebensmittelkontakt.pdf, last accessed on 18/07/2024

German Federal Institute for Risk Assessment (BfR): Recommendation XXXVI/1. "Cooking Papers, Hot Filter Papers and Filter Layers"; https://www.bfr.bund.de/cm/343/XXXVI-1-Koch--und-Heissfilterpapiere-und-Filterschichten.pdf, last checked on 18/07/2024

German Federal Institute for Risk Assessment (BfR): Recommendation XXXVI/2. "Paper and Paperboard for Baking Purposes"; https://www.bfr.bund.de/cm/343/XXXVI-2-Papiere--Kartons-und-Pappen-fuer-Backzwecke.pdf, last accessed on 18/07/2024

Danish Veterinary and Food Administration (2020): Ban on fluorinated substances in paper and board food contact materials (FCM); Fact sheet, June 2020; https://en.foedevarestyrelsen.dk/Media/638210239823191854/Faktaark%20FCM%20(english).pdf, last checked on 18/07/2024

DIN EN 12260:2003-12 Water quality - Determination of nitrogen – Determination of bound nitrogen (TNb), following oxidation to nitrogen oxides

DIN EN 13284-1:2018-02 Stationary source emissions – Determination of low range mass concentration of dust – Part 1: Manual gravimetric method

DIN EN 13432:2000-12 Packaging - Requirements for packaging recoverable through composting and biodegradation

DIN EN ISO 10304-1 - Water quality - Determination of dissolved anions by liquid chromatography of ions - Part 1: Determination of bromide, chloride, fluoride, nitrate, nitrite, phosphate and sulfate (ISO 10304-1:2007); https://www.dinmedia.de/de/norm/din-en-iso-10304-1/117316025, last checked on 18/07/2024

DIN EN ISO 14001: Environmental management systems - Requirements with guidance for use

DIN EN ISO/IEC 17025:2018-03 General requirements for the competence of testing and calibration laboratories (ISO/IEC 17025:2017)

ISO 14001 - Environmental management systems; https://www.umweltbundesamt.de/themen/wirtschaft-konsum/wirtschaft-umwelt/umwelt-energiemanagement/iso-14001-umweltmanagementsystemnorm#inhalte-der-iso-14001, last checked on 18/07/2024

NACE 17.12: NACE Code 17.12.0 Manufacture of paper and paperboard; https://nace-code.de/17-12-0-herstellung-von-papier-karton-und-pappe, last checked on 18/07/2024

Nordic Swan Ecolabel: Paper modules. https://www.svanen.se/en/for-companies/criteria-application/paper-modules/, last checked on 02/07/2024.

OECD iLibrary: OECD Series on Principles of Good Laboratory Practice and Compliance Monitoring. https://www.oecd-ilibrary.org/environment/oecd-series-on-principles-of-good-laboratory-practice-and-compliance-monitoring_2077785x, last checked on 18/07/2024

TRGS 905 (2020): Technical Rules for Hazardous Substances – Directory of carcinogenic and mutagenic substances and substances toxic to reproduction, March 2016, updated in 2020. https://www.baua.de/DE/Angebote/Rechtstexte-und-Technische-Regeln/Regelwerk/TRGS/TRGS-905.html, last checked on 18/07/2024

Regulation (EC) No. 1272/2008 (CLP) 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, as well as amending Regulation (EC) No. 1907/2006 https://eur-lex.europa.eu/legal-content/DE/TXT/?uri=celex%3A32008R1272, last checked on 18/07/2024

Regulation (EC) No. 1272/2008 of the European Parliament and of the Council of 16 December 2008 concerning the classification, labelling and packaging of substances and mixtures; https://eur-lex.europa.eu/eli/reg/2008/1272/oj, last checked on 02/07/2024

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); https://eur-lex.europa.eu/eli/reg/2006/1907/oj, last checked on 18/07/2024

Regulation (EU) 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants; https://eur-lex.europa.eu/eli/reg/2019/1021/oj, last checked on 18/07/2024

German Packaging Act: Law for the sale, return and high-quality recycling of packaging (VerpackG) §3 Definitions; https://www.gesetze-im-internet.de/verpackg/__3.html, last checked on 18/07/2024

DIN EN ISO 9562:2005-02: Water quality - Determination of adsorbable organically bound halogens (AOX) (ISO 9562:2004)

DIN EN 1485:1996-11: Water quality - Determination of adsorbable organically bound halogens (AOX)

DIN 38409-14:1985-03: German standard methods for the examination of water, waste water and sludge; summary indices of actions and substances (group H); determination of adsorbable organically bonded halogens (AOX)

Method 1650 C: Adsorbable Organic Halides by Adsorption and Coulometric Titration, August 1997; Available online at https://www.epa.gov/sites/default/files/2015-10/documents/method_1650c_1997.pdf, last checked on 12/09/2024

Appendix B Measurement of emissions to waste water in the paper production process or pulp production process

Measurement of emissions to waste water must be carried out on unfiltered and unsettled samples, either after preparation at the production plant or after preparation at an urban waste water treatment plant.
The measurements must be carried out over a production period of 12 months. The frequency of the measurements must be at least monthly (once a month). In the case of new or renovated production plants, the measurements must be based on at least 45 consecutive days of continuous plant operation. The measurements must be representative for the relevant periods.

Accepted test methods include:

- NFT 90101, ASTM D 1252 83, EPA SM 5220D or HACH 8000
- Total N: EN ISO 11732, EN 10304-2, EN ISO 13395, SFS 5505, SS 0280101
- Total P: ISO 6878, SS 028102, SFS 3026, NS 4725, EN 1189:1993, SM4500, APAT IRSA CNR 4110 or Dr Lange LCK 349
- An equivalent test method whose scope and requirement standards is equivalent to one of the named national and international standards. The equivalence of the certification system must be confirmed by an independent environmental verifier.
- Alternatively, individual verifications in accordance with the criteria and verification requirements of one of the named test methods may be presented if an equivalent level of protection can be achieved. The equivalence of the individual verifications must be confirmed by an independent environmental verifier.

Appendix C Measurement of emissions to air in the pulp production process

The measurements of the emissions to air must be carried out over a production period of 12 months. Unless the regulatory requirements at the site of the pulp production prohibit such measurements, measurements of the emissions to air must be completed at least every six months in addition to any measurements stipulated in the regulatory requirements. Written verification must be provided if the production site for the pulp is exempt from this requirement for six monthly measurements. Emissions associated with the generation of electrical energy do not need to be taken into account. The sulphur emissions associated with the generation of heating energy from oil, coal and other external fuels with known S-contents can be measured or calculated and must be taken into account. In the case of new or renovated production plants, the measurements must be based on at least 45 consecutive days of continuous plant operation. The measurements must be representative for the relevant periods.

Accepted test methods include:

- Gaseous sulphur compounds: NS 4859, SFS 5265, SS 028421, EPA 8, EPA 16A
- NOx: ISO 11564, ISO 10849, EN 14792, SS 028425, EPA 7E
- Dust: EN 13284-1, SFS 3866
- An equivalent test method whose scope and requirement standards is equivalent to one of the named national and international standards. The equivalence of the certification system must be confirmed by an independent environmental verifier.
- Alternatively, individual verifications in accordance with the criteria and verification requirements of one of the named test methods may be presented if an equivalent level of protection can be achieved. The equivalence of the individual verifications must be confirmed by an independent environmental verifier.

Appendix D Hazard categories and hazard statements

Table 3: Hazard categories for the general exclusion of substances and their corresponding hazard statements (H Phrases) according to the CLP Regulation (EC) No. 1272/2008

CLP Regulation (EC) No. 1272/2008		
Hazard category	**Hazard statements**	
	H Phrases	**Wording**
Germ cell mutagenic substances		
Muta. 1A Muta. 1B	H340	May cause genetic defects.
Muta 2	H341	Suspected of causing genetic defects.
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.
Reprotoxic substances		
Repr. 1A Repr. 1B	H360	May damage fertility or the unborn child.
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	H361	Suspected of damaging fertility or the unborn child.
Repr. 2	H361f	Suspected of damaging fertility.
Repr. 2	H361d	Suspected of damaging the unborn child.
Repr. 2	H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
Lact.	H362	May cause harm to breast fed children.
Substances with specific target organ toxicity		
STOT SE 1	H370	Causes damage to organs.
STOT SE 2	H371	May cause damage to organs.
STOT RE 1	H372	Causes damage to organs through prolonged or repeated exposure.
STOT RE 2	H373	May cause damage to organs through prolonged or repeated exposure.

CLP Regulation (EC) No. 1272/2008		
Hazard category	**Hazard statements**	
	H Phrases	**Wording**
Endocrine disruptors		
ED HH 1	EUH380	May cause endocrine disruption in humans.
ED HH 2	EUH381	Suspected of causing endocrine disruption in humans.
ED ENV 1	EUH430	May cause endocrine disruption in the environment.
ED ENV 2	EUH431	Suspected of causing endocrine disruption in the environment.
(Very) persistent), (very) bioaccumulative and toxic substances		
PBT	EUH440	Accumulates in the environment and living organisms including in humans.
vPvB	EUH441	Strongly accumulates in the environment and living organisms including in humans.
(Very) persistent), (very) mobile and toxic substances		
PMT	EUH450	Can cause long-lasting and diffuse contamination of water resources.
vPvM	EUH451	Can cause very long-lasting and diffuse contamination of water resources.
Other environmental hazards		
Ozone 1	H420	Harms public health and the environment by destroying ozone in the upper atmosphere.