# BLUE ANGEL

## The German Ecolabel

# Paper made from 100% recovered paper for paper bags and boxes

## DE-UZ 217a

**Basic Award Criteria**

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**Version 3**

**The Environmental Label is supported by the following four institutions:**

Federal Ministry
for the Environment, Nature Conservation
and Nuclear Safety

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.

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 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

The use of recovered paper in the production of packaging paper contributes to the preservation of resources, especially ecosystems such as forests, and thus helps to protect species and the climate. Using recovered paper from household and commercial collections supports the high-quality recycling of recovered paper.

In a comparison of their impact on ecological systems, those paper products made from recovered paper perform significantly better in terms of their use of resources, waste water load and water and energy consumption than paper products made from virgin fibres that use wood as a source of fibrous raw materials – when the products have comparable performance characteristics.

The German Environment Agency generally recommends that single-use bags and boxes are replaced with multiple-use bags and boxes; this corresponds to the first step of the waste hierarchy – the prevention of waste. However, if these products are not available, the single-use bags and boxes should be as environmentally friendly as possible. Paper made from 100% recovered paper for single-use bags and boxes should meet the highest standards with respect to recyclability so that high-quality recycling of the paper fibres is possible multiple times.
Against the background of the regulations in Directive (EU) 2019/904 of 5 June 2019 on the reduction of the impact of certain plastic products on the environment, such as lightweight plastic carrier bags, it is anticipated that there will be greater use of paper bags and boxes in the future. The use of paper bags and boxes instead of plastic ones will reduce the input of plastic into the environment and thus ultimately into the food chain when these plastic products are not disposed of properly.

The proportion of recovered paper used in the German paper industry is increasing continuously. It stood at 49% in 1990 but had already risen to 76% in 2018.[1] According to statistics from the German Pulp and Paper Association, the proportion of recovered paper used for packaging paper

[1] Papier 2019 – Ein Leistungsbericht (Paper 2019 - A Performance Report), German Pulp and Paper Association, Bonn, 2019

has been greater than 95% since 1995. The collection and sorting of recovered paper are important prerequisites for making the recovered paper available to the paper industry. This process involves removing non-paper substances from the collected materials and then sorting the paper into defined grades of recovered paper (according to DIN EN 643). The Blue Angel promotes the use of 100% recovered paper in its criteria. At least 65% of the recovered paper must be sourced from the ordinary, medium and kraft paper grades (1, 2, 4) and the special grade 5. Ordinary paper grades are primarily recovered from household collections. By requiring the use of ordinary and kraft paper grades, the Blue Angel aims to ensure that almost all of the paper fibres recovered in the paper cycle are preserved and used for high quality applications such as for paper bags and boxes. A maximum of 35% of the recovered paper may be sourced from the better grades (group 3). This will make it possible to replace virgin fibre paper with recycled paper even for high-quality applications and thus contributes to the preservation of the forests. Using recovered paper from household and commercial collections supports the high-quality recycling of recovered paper.

The Blue Angel restricts the addition of critical production aids and paper refining agents in its criteria for the production of paper in order to, on the one hand, minimise the pollution of waste water and, on the other hand, reduce the pollutant load in the paper. For example, the use of optical brighteners, halogenated bleaching agents and not readily biodegradable complexing agents is prohibited except for in a few exceptional cases. In addition, it also sets requirements for waste water emissions, the generation of waste and energy consumption during the production of the paper.

### 1.3 Objectives of the Environmental Label

The requirements in these Basic Award Criteria are intended, in particular, to promote the use of recycled paper and prevent the use of substances that are not required for technical reasons during production. The use of recycled paper that has been awarded the Blue Angel makes an important contribution to the preservation of resources and the protection of species and the climate.

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

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- made from 100% recovered paper
- saves energy, water and wood
- particularly low level of harmful materials

### 1.4 Definitions

**Recovered paper** according to DIN 6730 is the term used for paper, paperboard and cardboard, based on natural fibres, that is suitable for recycling and consists of:

- paper, paperboard and cardboard in any form,

- products primarily made of paper, paperboard and cardboard, which contain other components that cannot be separated using dry sorting, such as coatings and composite materials, spiral bindings, etc.

Recovered paper is also used as the umbrella term for paper, cardboard and paperboard that is collected after use or processing. Refer to DIN EN 643 for specifications about the different grades of recovered paper.

**Recycled paper** according to DIN 6730 is an umbrella term for paper, paperboard and cardboard produced using fibres sourced 100% from recovered paper, whereby the fibres used may only be sourced from a production plant for recycled paper.

**Paper bags and boxes** is an umbrella term for all brown and white paper bags and boxes, with or without a handle, in a variety of different designs (incl. gift bags). This includes all types of bags and sacks, as well as bags for organic waste. This term also includes open corrugated cardboard boxes for transporting items purchased in supermarkets.

# 2 Scope

These Basic Award Criteria apply to the types of paper stated in Appendix B that are made from 100% recovered paper. They can be used for their respective purpose (e.g. masking paper) or for the production of the paper bags or boxes included within the scope of DE-UZ 217b. Furthermore, they can be used for certain finished products according to DE-UZ 14b.

Accordingly, these types of paper are white (i.e. not coloured) or brown (possibly coloured) recycled paper that are produced with or without a deinking process and which can be assigned to the following groups of paper in the list of paper grades from the German Pulp and Paper Association (Verband Deutscher Papierfabriken e. V.) (Appendix B of these Basic Award Criteria):

- Paper made from 100% recovered paper from the product groups
  - packaging paper and paperboard
  - technical and special paper

A separate application for the environmental label must be submitted for finished products according to DE-UZ 217b (paper bags and boxes) that are produced using these types of paper. Other finished products made from these types of paper cannot be certified with the Blue Angel. This applies, in particular, to sales packaging that is not covered by the scope of DE-UZ 217b. If these types of paper are used for applications that cannot be certified with the Blue Angel, the certification of the paper with the Blue Angel may only be communicated on these products in accordance with Paragraph 3.17.

# 3 Requirements

## 3.1 Use of fibrous raw materials and grades of recovered paper

The paper fibres in the recycled paper (white/brown) must have been sourced 100% from recovered paper.

For the production of the products, a maximum of 35% of the recovered paper – based on the total content of fibrous raw materials – may be sourced from the better grades (group 3) and at least 65% of the recovered paper – based on the total content of fibrous raw materials – must be sourced from the ordinary, medium and kraft paper grades and special grades (groups 1, 2, 4 and 5). If the grades 2.05.00 ordinary sorted office paper, 2.05.01 sorted office paper, 2.06.00 ordinary sorted coloured letters, 2.06.01 sorted coloured letters, 3.05.01 white wood free letters unprinted, 3.06.00 white business forms and 5.09.00 carbonless copy paper (NCR) are used, the product must comply with the requirement according to Paragraph 3.2 (DIPN content).

Recovered paper that is processed to produce items that come into contact with food (food packaging, etc.) may not be sourced from general waste sorting plants or multi-component collection processes. The use of the grade 5.01.00 (mixed papers) is thus also excluded for the production of paper with the environmental label.

Refer to DIN EN 643 for specifications about the different grades of recovered paper.

***Compliance verification***

*The applicant shall characterise the paper in Annex 2 to the contract pursuant to DE-UZ 217a by stating the sort key, format, weight, surface treatment (coated or uncoated) and whiteness (only in the case of white paper bags and boxes/white paper). The applicant shall submit a product sample.*

*The applicant shall declare compliance with the requirements in Paragraph 3.1 in Annex 1 to the contract pursuant to DE-UZ 217a. He/she shall state the average percentage of the recovered paper grades from groups 1, 2, 3, 4 and 5 used in the product in Annex 2. The applicant shall also state the percentages of the individual grades 2.05.00 ordinary sorted office paper, 2.05.01 sorted office paper, 2.06.00 ordinary sorted coloured letters, 2.06.01 sorted coloured letters, 3.05.01 white wood free letters unprinted, 3.06.00 white business forms and 5.09.00 carbonless copy paper (NCR).*
*The correctness of the data provided in Annex 1 to the contract shall be verified 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 Diisopropylnaphtaline (DIPN)

The content of diisopropylnaphthalene (DIPN) in paper and cardboard should be kept as low as technically possible. It is thus generally not permitted to use the grades of recovered paper 2.05.00 ordinary sorted office paper, 2.05.01 sorted office paper, 2.06.00 ordinary sorted

coloured letters, 2.06.01 sorted coloured letters, 3.05.01 white wood free letters unprinted, 3.06.00 white business forms and 5.09.00 carbonless copy paper (NCR).

Alternatively, grades of recovered paper containing DIPN (2.05.00, 2.05.01 2.06.00, 2.06.01, 3.05.01, 3.06.00 and 5.09.00) may be used if an efficient technical system (e.g. deinking) exists that largely removes the DIPN from the fibre cycle and the DIPN content in the finished paper does not exceed a maximum of 50 mg/kg.

***Compliance verification***

*The applicant shall declare compliance with the requirements in Annex 1 to the contract pursuant to DE-UZ 217a. If the grades of recovered paper 2.05.00, 2.05.01, 2.06.00, 2.06.01, 3.05.01, 3.06.00 and 5.09.00 have been used, the applicant shall state the maximum DIPN content in the finished product in Annex 2 and submit a test report from an independent testing institution accredited according to ISO 17025 or a selected testing institution recognised by the UBA e.g. Chair of Paper Technology and Mechanical Process Engineering (PMV) at TU Darmstadt.*
*The DIPN content shall be determined* ***once a year*** *in accordance with DIN EN 14719 (DIPN in acetone extract).*

### 3.3 Bisphenol A and Bisphenol S

The use of recovered paper could transfer Bisphenol to the finished paper. Therefore, the content of Bisphenol A and Bisphenol S in the finished paper must be determined once a year.

***Compliance verification***

*The content of Bisphenol A (CAS no. 80-05-7) and Bisphenol S (CAS no. 80-09-1) must be determined in a cold water extract prepared according to DIN EN 645 using liquid chromatography with UV/fluorescence detection or MS detection.*
*The applicant shall confirm in Annex 1 to the contract pursuant to DE-UZ 217a that a test report from an independent testing institution accredited according to ISO 17025 or a testing institution recognised by the UBA will be commissioned* ***once a year*** *for statistical purposes and shall state the measurement results in Annex 2.*
*If multiple products are produced based on the same composition of recovered paper (Annex 2), it is sufficient to submit an analysis of a sample of the paper once a year.*

### 3.4 General exclusion of substances with certain properties

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

a) It is prohibited to add any substances of very high concern (SVHC) that have been added to the so-called "list of candidates" according to Article 59, Paragraph 1 of the REACH regulation (EC/1907/2006)[2].

[2] The version of the list of candidates at the time of application is valid. RAL gGmbH must be notified about any changes to the list of candidates that apply at the time of application. The applicant will be informed if substances have been added that were not previously on the list.

b) No substances may be added to the product that

- according to the criteria of Regulation (EC) No 1272/2008 (CLP Regulation) are classified with the following H Phrases named in Table 3-1 or which meet the criteria for such classification.
- are classified as carcinogenic, mutagenic or reprotoxic substances in the currently valid version of TRGS 905[3].

Table 3-1: H Phrases according to the CLP Regulation

| **H Phrases according to the CLP Regulation** | **Wording** |
|---|---|
| H340 | May cause genetic defects. |
| H341 | Suspected of causing genetic defects. |
| H350 | May cause cancer. |
| H350i[4] | May cause cancer if inhaled. |
| H351 | Suspected of causing cancer. |
| H360F | May damage fertility. |
| H360D | May damage the unborn child. |
| H360FD | May damage fertility.<br>May damage the unborn child. |
| H360Fd | May damage fertility.<br>Suspected of damaging the unborn child. |
| H360Df | May damage the unborn child.<br>Suspected of damaging fertility. |
| H361f | Suspected of damaging fertility. |
| H361d | Suspected of damaging the unborn child. |
| H361fd | Suspected of damaging fertility.<br>Suspected of damaging the unborn child. |

***Compliance verification***

*The applicant shall declare compliance with the requirement in Annex 1 to the contract pursuant to DE-UZ 217a. The applicant shall verify compliance with the requirement by listing the colourants, coating materials, production aids and paper refining agents used and submitting declarations from the suppliers of the colourants, coating materials, production aids and paper refining agents in accordance with Annex 3. If requested to do so by RAL gGmbH, the applicant shall submit the relevant safety data sheets.*

## 3.5 Further requirements for production aids and paper refining agents

Only those production aids and paper refining agents that are listed in Recommendation XXXVI from the BfR for "Paper and board for food contact"[5] (positive list) in sections B (production aids) and C (special paper refining agents) may be added to the product. The maximum quantities and concentrations stated in this list must be observed.

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3 http://www.baua.de/nn_16812/de/Themen-von -A-Z/Gefahrstoffe/TRGS/pdf/TRGS-905.pdf
4 An exception is made for titanium dioxide because its classification is only based on the respirable dust
5 http://bfr.ble.de/kse/faces/DBEmpfehlung.jsp

***Compliance verification***

*The applicant shall declare compliance with the requirements in Annex 1 to the contract pursuant to DE-UZ 217a. The applicant shall verify compliance with the requirement by listing the production aids and paper refining agents used and submitting declarations from the suppliers of the production aids and paper refining agents in accordance with Annex 3. If requested to do so by RAL gGmbH, the applicant shall submit the relevant safety data sheets.*

### 3.6 Exclusion of glyoxal, PFAS, optical brighteners, coating materials

No production aids containing glyoxal or per- and polyfluoroalkyl substances may be used to produce the recycled paper. In addition, the product may not contain any optical brighteners or coating materials.

***Compliance verification***

*The applicant shall declare in Annex 1 to the contract pursuant to DE-UZ 217a that no glyoxal, PFAS, optical brighteners and coating materials have been added to the product.*

### 3.7 Wet strength agents

No Wet strength agents may be used to produce the types of paper according to Paragraph 2. The only exception is for paper used to produce bags for organic waste, for which it is permitted to add wet strength agents to the product up to a max. quantity of 1% by mass (mass of the active substance in relation to the mass of the oven dry pulp [6]).

***Compliance verification***

*The applicant shall declare compliance with the requirement in Annex 1 to the contract pursuant to DE-UZ 217a.*
*If wet strength agents have been added, the manufacturer shall describe the type (trading name and CAS number) and quantity and confirm that the paper is only used for the production of bags for organic waste.*

### 3.8 Bleaching and complexing agents

The recovered paper must be processed without the use of chlorine, halogenated bleaching agents and not readily biodegradable complexing agents such as e.g. ehylenediaminetetraacetic acid (EDTA) and diethylenetriaminepentaacetic acid (DTPA).

***Compliance verification***

*The applicant shall declare compliance with the requirement in Annex 1 to the contract pursuant to DE-UZ 217a and also state the bleaching chemicals and complexing agents used in Annex 2.*

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[6] oven dry pulp: oven dry mass of a sample of the pulp after drying to constant mass under defined conditions (105 °C ± 2 °C)

### 3.9 Biocides

In the production of the recycled paper, only those slimicides (substances in product type 12) and material preservatives for fibres (substances in product type 9) in the sense of the Biocidal Products Regulation that have been approved in accordance with the Biocidal Products Regulation (EU) No. 528/2012 (EU list of approved active substances) or are still being examined as a notified existing active substance for the relevant type of biocides as part of the EU work programme for the systematic examination of all existing active substances may be used.

Accordingly, it is only permitted to use those biocidal products classified in product types 9 and 12 that have been explicitly approved for the desired application.

For a transitional period, biocidal products that contain notified existing active substances of product types 9 and 12 that are still being examined as part of the EU examination process can also be used without approval if they have been registered in accordance with the German ordinance on the notification of biocidal products pursuant to the German Chemicals Act (Biocide Notification Ordinance – ChemBiozidMeldeV).

In addition, the biocidal products used in the product must not contain any substances that have been considered as candidates for substitution according to Article 10 of Regulation (EU) No. 528/2012.

Until the approval requirements for the biocidal products containing notified existing active substances come into force, only those substances that are also listed in Recommendation XXXVI from the BfR are permitted.

It is also possible that production aids and paper refining agents used for the production of the recycled paper contain biocidal products in product type 6 (protection of finished products in containers against microbial deterioration to ensure their shelf life) that have been made available on the market. Residual content of these biocidal products will be accepted.

***Compliance verification***

*The applicant shall declare compliance with the requirement in Annex 1 to the contract pursuant to DE-UZ 217a and state which biocidal substances from which product type have been used with their IUPAC names and CAS numbers, as well as the quantities used per kilogram of dry pulp in Annex 2.*

### 3.10 Whiteness

It is not permitted for any of the products to exceed a maximum grade of whiteness of 100% (including the UV proportion) according to ISO 2470 and a maximum CIE whiteness of 135 according to DIN ISO 11475. Brown paper is excluded from this requirement.

***Compliance verification***

*The applicant shall declare compliance with the requirement in Annex 1 to the contract pursuant to DE- UZ 217a and state the grade of whiteness according to ISO 2470 and the CIE whiteness according to DIN ISO 11475 in Annex 2.*

### 3.11 Azo dyes and pigments in colourants

For the production of paper bags and boxes according to Paragraph 2, no azo dyes or pigments may be added in colourants that can cleave into one of the amines stated in Regulation (EC) No. 1907/2006, Annex XVII, No. 43, Appendix 8 or 9, or in TRGS 614[7] (see Appendix C).

***Compliance verification***

*The applicant shall declare compliance with the requirement in Annex 1 to the contract pursuant to DE-UZ 217a and submit a declaration from the colourant suppliers with Annex 3.*

### 3.12 Mercury, lead, cadmium or chromium VI compounds in colourants

For the production of paper bags and boxes according to Paragraph 2, it is not permitted to add any colourants (pigments or dyes) containing mercury, lead, cadmium or chromium (VI) compounds as constituent ingredients.

***Compliance verification***

*The applicant shall declare compliance with the requirement in Annex 1 to the contract pursuant to DE-UZ 217a and submit a declaration from the colourant suppliers with Annex 3.*

### 3.13 Mineral oil-based additives and mineral oil-based colourants

For the production of paper bags and boxes according to Paragraph 2, no mineral oil-based additives, colourants or base oils that contain aromatic hydrocarbons (with ≥ 10 carbon atoms) as a component may be added. In the case of aliphatic hydrocarbons, only those substances with a chain length of C10 to C20 may be used. Plant-based substitutes for mineral oil should be free of genetic engineering and sourced from sustainable cultivation[8].

***Compliance verification***

*The applicant shall declare compliance with the requirement in Annex 1 to the contract pursuant to DE-UZ 217a. He/she shall state the additive, colourant or base oils used in the product in Annex 3. If plant-based substitutes have been used, the applicant shall state in Annex 3 which substitutes (which plant-based raw material) are added and where they are sourced.*

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[7] https://www.baua.de/DE/Angebote/Rechtstexte-und-Technische-Regeln/Regelwerk/TRGS/TRGS-614.html

[8] The following certification systems are considered suitable for renewable raw materials: RSPO (Roundtable on Sustainable Palmoil), ISCC+, ISCC EU (International Sustainable & Carbon Certification) or RSB (Roundtable on Sustainable Biomaterial), Roundtable Responsible Soy (RTRS) und ProTerra (ProTerra Foundation) or a comparable certification system whose scope and requirement standards are equivalent to one of the named certification systems.

## 3.14 Requirements for waste water

Appendix 28 of the German Waste Water Ordinance must be observed for the production of recycled paper and an operating journal according to Annex 2 of the German Waste Water Ordinance must be kept. The requirements for waste water differ according to whether the paper manufacturer is a direct or indirect discharger.

### 3.14.1 Direct discharge

In the production of recycled paper, the emission limits for the waste water load that are listed by the EU Commission in the "Best Available Techniques (BAT) Reference Document for the Production of Pulp, Paper and Board PP BREF"[9] must be complied with by direct dischargers. These limits have been implemented in Germany in Appendix 28 of the German Waste Water Ordinance. The limits listed in Table 3-2 go above and beyond the statutory requirements in some cases so that the environmental label can only be used to certify paper that is produced in a particularly environmentally friendly way.

Table 3-2: Maximum limits for the average annual emission parameters (waste water) in the paper production process (not valid for the production of special papers)

| **Parameter** | **Maximum limit for waste water emissions (average annual value as a load or concentration)** | |
|---|---|---|
| | **Paper factory with deinking** | **Paper factory without deinking** |
| Volumetric flow rate of waste water | <15 $m^3$/Adt | <5 $m^3$/Adt |
| COD | < 3 kg/Adt | < 1.2 kg/Adt |
| $BOD_5$ | < 0.15 kg/Adt or <25 mg/l | |
| AOX | < 0.01 kg/Adt | |
| Total N (inorganic + organic N) ($TN_b$) | 0.07 kg/Adt or 15 mg/l | |
| Total P | 0.008 kg/Adt or 1.2 mg/l | |

Adt = air dried ton
$TN_b$ = 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 described in DIN EN 12260.

### 3.14.2 Indirect discharge

Indirect dischargers must declare compliance with the emission limits for the parameters stated in Table 3-2 after treatment.

***Compliance verification***

***Direct dischargers***

*If the manufacturer of the recycled paper is a direct discharger, he/she shall declare compliance with the emission limits according to Table 3-2 in Annex 1 to the contract pursuant to DE-UZ 217a and state the measured emission values in Annex 4.*

***Indirect dischargers***
*If the manufacturer of the recycled paper is an indirect discharger, he/she shall declare compliance with the limit values in Annex 1 to the contract pursuant to DE-UZ 217a.*
*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.*

### 3.15 Requirements for generated waste

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 following waste materials are usually generated during the production of paper from recovered paper: Sludge from the treatment of the process water, fibrous sludge, residues from the treatment of the recovered paper and deinking sludge. The remaining waste materials should be recycled as far as possible.

In the production of recycled paper, the following waste material limits, including sludge from the treatment of the process water, given as an annual average figure as a dry mass, must not be exceeded:
Paper factory with deinking: 250 kg/t of product
Paper factory without deinking: 100 kg/t of product.
These limits were derived from the data collected for the BAT reference document for the paper and pulp industry (PP BREF[9], Section 6.2.1., Table 6.1).

### 3.16 Requirements for energy consumption

The paper industry is one of the six most energy-intensive industries in Germany. The Blue Angel also sets incentives in its Basic Award Criteria for companies to further reduce the consumption of heat and electricity at the production sites. For the production of recycled paper, the following limits for the consumption of electricity and process heat must not be exceeded as an annual average:

[9] BREF (Best Available Techniques Reference Document) full version and BAT conclusions in German and English at https://www.umweltbundesamt.de/themen/wirtschaft-konsum/beste-verfuegbare-techniken/sevilla-prozess/bvt-merkblaetter-durchfuehrungsbeschluesse

Table 3-3: Maximum limits for the consumption of process heat and electricity in the production of paper (annual average value in kWh/t)

| | **Process heat in kWh/t** | **Electrical power in kWh/t** |
|---|---|---|
| **Paper factory with deinking** | 1,400 | 1,000 |
| **Paper factory without deinking** | 1,700 | 500 |

These limits were derived from the data collected for the BAT reference document for the paper and pulp industry (PP BREF, Section 6.2.1, Table 6.7).

***Compliance verification***

*The manufacturer of the recycled paper shall declare compliance with the limits according to Paragraphs 3.15 and 3.16 stated in Table 3-3 in Annex 1 to the contract pursuant to DE-UZ 217a and state the amount of waste recorded and the measured energy consumption values and the measurement period used in Annex 2.*

### 3.17 Labelling of finished products

If the paper is used for applications (finished products) that do not come under the scope of DE-UZ 217b or DE-UZ 14b, it is not permitted to label the finished product with the Blue Angel logo but instead only the following wording is permitted as a reference to the environmental label: "The paper is made from 100% recovered paper and meets the requirements for the Blue Angel environmental label".

### 3.18 Outlook

Any future revision of the environmental label will require verifications that renewable raw materials, which are used e.g. for the production of mineral oil-free colourants, are obtained from responsible, GMO-free sources that are located in the local region as far as possible and have been tested by a suitable certification system.
In addition, the proportion of microplastics in the paper used for bags for organic waste will be examined in future. There are currently no validated measurement methods available for properly examining this parameter. The energy generation during the production of the paper will be examined more closely in the future.

## 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.

The compliance verifications submitted by the applicant will be handled with complete confidentiality.

## 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, 2025.
They shall be extended by periods of one year each, unless terminated in writing by March 31, 2025 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.

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## 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.


**[1]** Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control) (Recast)

**[2]** Directive 94/62/EC of the European Parliament and of the Council of 20 December 1994 on packaging and packaging waste

**[3]** Directive (EU) 2018/852 of the European Parliament and of the Council of 30 May 2018 amending Directive 94/62/EC on packaging and packaging waste

**[4]** Directive 2019/904/EU of the European Parliament and of the Council of 5 June 2019 on the reduction of the impact of certain plastic products on the environment

**[5]** 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)

**[6]** 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

**[7]** Regulation (EU) No. 528/2012 of the European Parliament and of the Council of 22 May 2012 concerning the making available on the market and use of biocidal products

**[8]** Best Available Techniques (BAT) Reference Document for the Production of Pulp, Paper and Board, 2015, according to Directive 2010/75/EU on industrial emissions

**[9]** Ordinance on Requirements for the Discharge of Waste Water into Waters (Waste Water Ordinance - AbwV) of 17.06.2004

**[10]** German ordinance on the notification of biocidal products pursuant to the German Chemicals Act (Biocide Notification Ordinance- ChemBiozidMeldeV) of 14 June 2011 (BGBl. I P. 1085) Date of issue: 14 June 2011

**[11]** DIN EN 643:2014-11 Paper and board - European list of standard grades of paper and board for recycling

**[12]** DIN EN 645:1994-01 Paper and board intended to come into contact with foodstuffs; preparation of a cold water extract

**[13]** DIN EN 14719:2005-10 Pulp, paper and board - Determination of the Diisopropylnaphthalene (DIPN) content by solvent extraction

**[14]** DIN EN ISO/IEC 17025:2018-03 General requirements for the competence of testing and calibration laboratories

**[15]** DIN EN 12260:2003-12 Water quality - Determination of nitrogen - Determination of bound nitrogen ($TN_b$), following oxidation to nitrogen oxides

**[16]** DIN ISO 11475:2019-04 Paper and board - Determination of CIE whiteness, D65/10° (outdoor daylight)

**[17]** ISO 2470-1:2016-09 Paper, board and pulps - Measurement of diffuse blue reflectance factor

**[18]** ISO 14001:2015-11 Environmental management systems - Requirements with guidance for use

**[19]** DIN CEN/TS 13130-13:2005-05 Materials and articles in contact with foodstuffs - Plastic substances subject to limitation - Part 13: Determination of 2,2-bis(4-hydroxyphenyl)propane (Bisphenol A) in food simulants

**[20]** DIN 6730:2017-09 Paper, board and pulps - Vocabulary

**[21]** Association of Packaging Market Research (GVM), April 2019, www.kunststofftrageta-sche.info.

**[22]** TRGS 905 Directory of carcinogenic, mutagenic or teratogenic substances

**[23]** TRGS 614 Restrictions on use for azo dyes, which may release aromatic amines classified as carcinogens

**[24]** German Pulp and Paper Association (Verband Deutscher Papierfabriken e. V., Bonn), Ein Leistungsbericht 2019 (A Performance Report 2019)

## Appendix B Paper grades

The grades of paper listed below are a selection from the grade statistics published by the German Pulp and Paper Association (Verband Deutscher Papierfabriken e. V.), version 2019, that are made out of recycled paper and can be awarded the Blue Angel and which can also be used for bags and boxes made out of recovered paper.

| Paper, paperboard and cardboard for packaging purposes |
|---|

**White recycled packaging paper**

03 05 30 05 White recycled packaging paper

**Brown recycled packaging paper**

03 05 40 10 Brown recycled packaging paper

**Other packaging paper**

03 05 80 05 Other packaging paper

**Corrugated paper**

03 25 05 10 Kraft liner substitute
03 25 10 05 Test liner I, brown under 150 g/m2
03 25 10 10 Test liner I, brown from 150 g/m2
03 25 15 05 Test liner II, brown under 150 g/m2
03 25 15 10 Test liner II, brown from 150 g/m2
03 25 20 05 Test liner III, brown under 150 g/m2
03 25 20 10 Test liner III, brown from 150 g/m2
03 25 25 05 Other test liner, white
03 25 25 10 Other test liner, colour
03 25 25 15 Other test liner, marbled
03 25 30 05 Duplex corrugated paper, brown
03 25 30 10 Duplex corrugated paper, white
03 25 40 05 Corrugated material under 100 g/m2
03 25 40 10 Corrugated material equal to and above 100 g/m2
03 25 45 05 AP1 corrugated paper under 100 g/m2
03 25 45 10 AP1 corrugated paper equal to and above 100 g/m2
03 25 50 05 Special paper for corrugated cardboard
03 25 60 05 AP packaging paper

| Paper and paperboard for technical and special applications |
|---|

**Construction paper and paperboard**

06 15 25 05 Masking paper and paperboard
06 15 30 05 Other building paper and building paperboard

**Other machine-made cardboard and machine-made paperboard for special applications**

06 60 05 05 Beer mat paperboard

## Appendix C Dyes and pigments that are not permitted

The following azo dyes and pigments may not be added in accordance with Paragraph 3.11:

**Azo dyes and pigments that may cleave to one of the following aromatic amines (according to Directive (EC) No. 1907/2006, Annex XVII, No. 43, Annex XVII, Appendix 8 and 9 or in TRGS 614)**

| | |
|---|---|
| 4-aminobiphenyl | (92-67-1) |
| benzidine | (92-87-5) |
| 4-chloro-o-toluidine | (95-69-2) |
| 2-naphtylamine | (91-59-8) |
| o-amino-azotoluene | (97-56-3) |
| 2-Amino-4-nitrotoluene | (99-55-8) |
| p-chloroaniline | (106-47-8) |
| 2,4-diaminoanisol | (615-05-4) |
| 4,4′-diaminodiphenylmethane | (101-77-9) |
| 3,3′-dichlorobenzidine | (91-94-1) |
| 3,3′-dimethoxybenzidine | (119-90-4) |
| 3,3′-dimethylbenzidine | (119-93-7) |
| 3,3′-dimethyl-4,4′-diaminodiphenylmethane | (838-88-0) |
| p-cresidine | (120-71-8) |
| 4,4'-methylene-bis-(2-chloro-aniline) | (101-14-4) |
| 4,4′-Oxydianiline | (101-80-4) |
| 4,4′-Thiodianiline | (139-65-1) |
| o-toluidine | (95-53-4) |
| 2,4-diaminotoluene | (95-80-7) |
| 2,4,5-trimethylaniline | (137-17-7) |
| 4-aminoazobenzene | (60-09-3) |
| o-anisidine | (90-04-0). |