

BLUE ANGEL

The German Ecolabel



Low-Emission Internal Plasters

DE-UZ 198

Basic Award Criteria

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Version 2

The Environmental Label is supported by the following four institutions:



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



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



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



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 Federal 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 these conditions.

1.2 Objectives of the Environmental Label

Internal plasters are used as large-surface coating materials for interior ceilings and walls. Due to their large-scale application, the emissions from the internal plasters should be kept as low as possible from an environmental and health perspective. The environmental label is designed for the labelling of low-emission products. In order to evaluate the emissions from plasters for use in buildings, the design of these Basic Award Criteria has been based on the evaluation procedure (AgBB procedure) developed by the Committee for Health-Related Evaluation of Building Products – a committee of experts from environmental and health authorities at a federal government and state level. The environmental label places requirements on the raw materials and substances added during production, as well as on the usage phase and disposal of the containers and any residual product left in the container. In addition, proper application¹ of the products is also important.

As emissions are often associated with odours, which can also have an impact on health, sensory tests are an important element for the evaluation of various products for use indoors. Since December 2012, a measurement method has been available in the DIN ISO 16000-28 standard "Indoor air: Determination of odour emissions from building products using test chambers". This standard describes the method to measure odours from building products in test chambers in parallel to the measurement of volatile organic compounds (VOC). Therefore, these Basic Award Criteria include the verification of low odour emissions as an optional requirement. The scope of validity covers mineral plasters and preservative-free dispersion plasters for use indoors with the exception of gypsum plasters.

The environmental label for "Low-Emission Internal Plasters" may be awarded to products that – above and beyond the legal regulations:

- are manufactured using raw materials and substances that place less burden on the environment
- do not contain any substances that could have significant diverse effects during the intended use of the product

¹ DIN 18550-1 /-2

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



1.3 Terms and Abbreviations

AgBB Committee for Health-Related Evaluation of Building Products

AgBB procedure: Requirements for indoor air quality in buildings: Health-related Evaluation Procedure for Volatile Organic Compounds Emissions (VVOC, VOC and SVOC) from Building Products

BIT Benzisothiazolinone

CIT Chlormethylisothiazolinone

Constituent components

are substances added to the product as such or as part of a mixture 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.

MIT Methylisothiazolinone

Product-type (PT) 6 Preservatives for products during storage:

Products used for the preservation of manufactured products, other than foodstuffs, feeding stuffs, cosmetics or medicinal products or medical devices by the control of microbial deterioration to ensure their shelf life. Products used as preservatives for the storage or use of rodenticide, insecticide or other baits.

Product-type (PT) 7 Film preservatives:

Products used for the preservation of films or coatings by the control of microbial deterioration or algal growth in order to protect the initial properties of the surface of materials or objects such as paints, plastics, sealants, wall adhesives, binders, papers, art works.

Product-type (PT) 10 Construction material preservatives:

Products used for the preservation of masonry, composite materials, or other construction materials other than wood by the control of microbiological and algal attack.

SVOC Semi Volatile Organic Compound, retention range >C16-C22

TiO₂ Titanium dioxide

TVOCspez Sum of all individual substances found $\geq 5 \mu\text{g}/\text{m}^3$ in the retention range C6 – C16 (total volatile organic compounds)

TSVOC Sum of all individual substances $\geq 5 \mu\text{g}/\text{m}^3$ in the retention range > C16 – C22.

VOC Volatile Organic Compounds, retention range C6-C16

VVOC Very Volatile Organic Compounds, retention range <C6

WHC Water hazard class

2 Scope

These Basic Award Criteria are valid for the following internal plasters²:

- Solvent-free pasty plasters according to DIN EN 15824³
- Masonry mortar according to DIN EN 998-1⁴
- Earth plasters according to DIN 18947⁵ and stabilised earth plasters
- Structural wall paints designed for use indoors as internal plaster and with a thickness > 400 μm and/or a minimum coverage < 2m²/l.
-

The term “internal plasters” will be used below to describe those plasters that fall under the scope of validity.

The following are excluded:

- External plasters exclusively advertised for use outdoors
- Fillers and repair compounds and adhesives
- Fillers and adhesives for gypsum boards and gypsum blocks according to DIN EN 13963⁶
- Gypsum plasters according to DIN EN 13279-1⁷

3 Requirements

3.1 Material Requirements

3.1.1 General Material Requirements

Observance of the legal regulations according to European and German chemical law is a prerequisite; in the case of internal plasters, this includes, in particular, the REACH Regulation⁸

² The Environmental Label Jury may include other internal plasters in the scope of validity of the Basic Award Criteria on the recommendation of the Federal Environmental Agency (Umweltbundesamt).

³ DIN EN 15824 - Specifications for external renders and internal plasters based on organic binders

⁴ DIN EN 998 - Specification for mortar for masonry - Part 1: Rendering and plastering mortar

⁵ DIN 18947 - Earth plasters - Requirements, test and labelling

⁶ DIN EN 13963 - Jointing materials for gypsum boards - Definitions, requirements and test methods

⁷ DIN EN 13279 - Gypsum binders and gypsum plasters - Part 1: Definitions and requirements

Annexes XIV and XVII, the POP Regulation⁹ Annex I, ChemVerbotsV, GefStoffV, the Industrial Emissions Regulation¹⁰, the 25th BImSchV¹¹, the Biocidal Products Regulation¹², and the CLP Regulation^{13, 14}.

In addition, the internal plasters may not contain any substances with the following properties as a constituent component¹⁵:

- a) Substances which are identified as particularly alarming under the European Chemicals Regulation REACH Regulation⁸ and which have been incorporated into the list drawn up in accordance with Article 59, Paragraph 1 of the REACH Regulation (so-called "SVHC list of candidates")¹⁶.
- b) Substances that according to the CLP Regulation¹³ have been classified in the following hazard categories or which meet the criteria for such classification^{17, 18}:
 - ◆ carcinogenic in categories Carc. 1A or Carc. 1B
 - ◆ germ cell mutagenic in categories Muta. 1A or Muta. 1B
 - ◆ reprotoxic (teratogenic) in categories Repr. 1A or Repr. 1B
 - ◆ acute toxicity (poisonous) in categories Acute Tox. 1, Acute Tox. 2
 - ◆ specific target organ toxicity in categories STOT SE 1 or STOT RE 1
 - ◆ hazardous to water in categories Aquatic Acute 1, Aquatic Chronic 1 or Aquatic Chronic 2
 - ◆ The corresponding H phrases for the hazard classes and categories can be found in Supplement B.
- c) Substances that are classified in TRGS 905¹⁹ as:
 - ◆ carcinogenic (K1A, K1B)

⁸ Regulation (EC) No. 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), in short REACH

⁹ Regulation (EC) No. 850/2004 on persistent organic pollutants

¹⁰ Regulation 2010/75/EU on industrial emissions

¹¹ 25th Ordinance for the implementation of the Federal Immission Protection Act (ordinance for limiting emissions in the titanium dioxide industry)

¹² Regulation (EU) No. 528/2012 concerning the making available on the market and use of biocidal products

¹³ Regulation (EC) No. 1272/2008 on classification, labelling and packaging of substances and mixtures, short: CLP Regulation.

¹⁴ If other legal regulations also apply to specific products, these also need to be observed.

¹⁵ Constituent components are substances added to the product as such or as part of a mixture 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.

¹⁶ The version of the list of candidates as amended at the time of application is valid. It can be found here: [REACH list of candidates](#).

¹⁷ The harmonized classifications and labellings of dangerous substances can be found in Annex VI, Part 3 of the CLP Regulation. Furthermore, a comprehensive classification and labelling inventory, which also includes all of the self-classifications of hazardous substances made by manufacturers, has been made available to the public on the website of the European Chemicals Agency: [ECHA classification and labelling inventory](#).

¹⁸ Substances with other hazardous properties (i.e. CMR substances in category 2) are not excluded here but are instead restricted by the emissions evaluation according to the AgBB procedure (see Paragraph 3.1.2 Indoor air quality).

¹⁹ TRGS 905, directory of carcinogenic, mutagenic or teratogenic substances from the Committee for Hazardous Substances (AGS): [TRGS 905](#). The current version at the time of application is valid (last amended in May 2018). The TRGS lists such CMR substances that have not received harmonised classifications up to now or where the AGS has come to a different classification. The CMR complete list published by the Institute for Occupational Safety and Health of the German Social Accident Insurance can also be used as a reference tool: <https://www.reach-clp-biozid-helpdesk.de/de/Glossar/C-D/CMR.html>.

- ♦ mutagenic (M1A, M1B)
 - ♦ reprotoxic (R_F1A, R_F1B, R_D1A, R_D1B).
- d) Substances with other hazardous properties in concentrations that result in classification and labelling of the end product with a GHS hazard pictogram for health and environmental hazards. An exemption is made for internal plasters that must be labelled with the GHS hazard pictograms GHS05 (caustic effect) or GHS07 (exclamation mark) due to their high pH values during processing.

Compliance Verification

The applicant shall declare compliance with the requirements in Annex 1. In addition, the applicant shall state the brand names and suppliers of all individual primary products for the internal plaster, as well as their proportions and function in the manufactured internal plaster (Annex 2). To comply with the requirements, declarations from the manufacturer or distributor of the primary products (Annex R), as well as the corresponding safety data sheets²⁰ for the interior plaster (Annex 3) and the primary products used (Annex 4), must be submitted.

3.1.2 Volatile organic compounds, indoor air quality

Based on the "Health-related Evaluation Procedure for Volatile Organic Compounds Emissions (VOC) from Building Products"²¹ developed by the Committee for Health-Related Evaluation of Building Products (AgBB), the internal plasters must not exceed the following emission values in the test chamber:

²⁰ In accordance with Annex II of Directive (EC) No. 1907/2006

²¹ "Requirements for indoor air quality in buildings: Health-related Evaluation Procedure for Volatile Organic Compounds Emissions (VVOC, VOC and SVOC) from Building Products" (AgBB procedure, Federal Environmental Agency website, <http://www.umweltbundesamt.de/bauprodukte/agbb.htm>)

Substance	3rd day	Final value (28th day)
Total organic compounds within the retention range C ₆ – C ₁₆ (TVOCspez ²²)	≤ 3 mg/m ³	≤ 0.3 mg/m ³
Total organic compounds within the retention range > C ₁₆ – C ₂₂ (TSVOC)	-	≤ 0.1 mg/m ³
C-substances ²³	≤ 0.01 mg/m ³ Total	≤ 0.001 mg/m ³ Per individual substance
Total VOC without LCI ^{24, 25}		≤ 0.1 mg/m ³
R-value		≤ 1
Formaldehyde ²⁶		≤ 60 µg/m ³
Acetaldehyde		≤ 120 µg/m ³

The taking, storage and transport of the samples, the production and preparation of the test specimens and the preparation of the samples must be completed in accordance with DIN EN 16402. The DIN EN 16516 standard further specifies the test conditions in order to improve measurement reliability and reproducibility. The emissions are measured in accordance with DIN EN 16516. The test can be terminated at an early stage (at the earliest on the 7th day after preparing the test sample) if the permissible emission value for the 28th day have been reached early and no significant increase in the concentration of any of the identified substances has been observed in comparison to the measurement on the 3rd day. The optional odour emission test according to Paragraph 3.1.6 should be carried out in combination with the test for indoor air quality.

Compliance Verification

The applicant shall submit a test report according to the German technical rules "Anforderungen an bauliche Anlagen bezüglich des Gesundheitsschutzes" (Health protection requirements for physical structures) based on the DIN EN 16516 standard that verifies

²² The sum of all identified target compounds quantified using substance-specific calibration standards, plus all of the non-target compounds identified and all of the unidentified compounds, quantified using the TIC response factor for toluene which elute in a certain section of the chromatogram, after they have been corrected for the blind values determined in the same manner.

²³ C-substances = carcinogenic substances; according to K1A and K1B in accordance with the EU classification or TRGS 905

²⁴ Including non-identifiable substances

²⁵ LCI = Lowest Concentration of Interest.

²⁶ LCI values for formaldehyde and acetaldehyde are derived in the AgBB procedure 2018. This means that formaldehyde is not attributed to the C-substances but is instead taken into account in the calculation of the R-value. Acetaldehyde and other VVOC values with an LCI value are also included in the calculation of the R-value.

compliance with this requirement. The test report must be produced by a testing institution recognised for this test by BAM (Bundesanstalt für Materialforschung und Prüfung (Federal Institution for Material Research and Testing)).

The format of the test report must be based on DIN EN 16516 [Section 10], while the AgBB procedure should be carried out using the ADAM template. A new test report must be submitted to RAL gGmbH by the deadline defined in the Basic Award Criteria.

3.1.3 Special requirements for specific substances

3.1.3.1 Pigments

Pigments containing lead compounds may not be added to the internal plaster. The raw material may not contain more than 200 ppm of lead as process-related, technically unavoidable (natural or production-related) impurities.

3.1.3.2 Alkylphenol ethoxylates

Products containing alkylphenol ethoxylates (APEO) and/or their derivatives may not be added to the internal plaster and the binding agent.

3.1.3.3 Plasticisers

Products that contain plasticising substances from the group of phthalates or group of organophosphates or other comparable substances with a high boiling point may not be added to the low-emission internal plaster. Other mixtures that contain plasticisers in the sense of VdL Guideline 01²⁷ may only be added to the internal plaster and the binding agent in such quantities that the plasticiser content in the end product does not exceed 1 g/l.

3.1.3.4 Perfluorinated and polyfluorinated chemicals

It is not permitted for any perfluorinated or polyfluorinated chemicals (PFC), such as fluorocarbon resins and fluorocarbon emulsions, perfluorinated sulfonic and carboxylic acids, and substances that could be broken down into these chemicals to be added to the product. This also applies to primary products treated with PFCs.

Verifications for Paragraphs 3.1.3.1 - 3.1.3.4

The applicant shall verify compliance with the requirements by submitting declarations from the manufacturer or distributor of the primary products (Annex R), as well as the corresponding safety data sheets for the internal plaster (Annex 3) and the primary products used (Annex 4).

3.1.4 Preservatives in the internal plaster

In internal plasters according to Paragraph 2, the use of in-can and film preservatives is not permitted.²⁸

The isothiazolinone content in the internal plasters according to Paragraph 2 in their ready-to-use form must not exceed the following individual limits:

²⁷ Guideline on the declaration of paints, lacquers, varnishes, renders, fillers, primers and related products (VdL Guideline 01), <http://www.wirsindfarbe.de/service-publikationen/vdl-richtlinien/>

²⁸ PT 6 and PT 7 and PT 10 according to the Biocidal Products Regulation (EU No. 528/2012)

BIT ≤ 10 ppm
MIT < 1.5 ppm
CIT < 0.5 ppm
All other isothiazolinones < 2 ppm based on the individual substance
Free formaldehyde < 10 ppm

It is only permitted to use preservatives in the primary products if they do not have any preservative effect in the end product. These internal plasters must be labelled with the phrase “may contain traces of preservatives” on the container and the technical data sheet.

If the product is advertised as a preservative-free internal plaster, all individual substances classified as preservatives including formaldehyde must not exceed a limit of 2 ppm, except for CIT < 0.5 ppm and MIT < 1.5 ppm.

Compliance Verification

The applicant shall declare compliance with the requirements in Annex 1 and submit the analytical verification according to Appendix B for the isothiazolinone content of the internal plaster or the preservative-free internal plaster including the pH value. The sealed sample must not have been stored for longer than 20 days at room temperature at the time of the test.

To comply with the requirements, declarations from the manufacturer or distributor of the primary products (Annex R), as well as the corresponding safety data sheets²⁰ for the internal plaster (Annex 3) and the primary products used (Annex 4), must be submitted.

3.1.5 Production of titanium dioxide pigments

Emissions and waste resulting from the production of titanium dioxide pigments may not exceed the following values²⁹:

- For the sulphate process:
 - ♦ SO_x calculated as SO₂: 7.0 kg/t of TiO₂ pigment
 - ♦ Sulphate waste: 500 kg/t of TiO₂ pigment
- For the chloride process:
 - ♦ If natural rutile ore is used: 103 kg chloride waste/t of TiO₂ pigment
 - ♦ If synthetic rutile ore is used: 179 kg chloride waste/t of TiO₂ pigment
 - ♦ If slag ore is used: 329 kg chloride waste/t of TiO₂ pigment
 - ♦ If more than one type of ore is used, the values apply in proportion to the quantities of the individual types of ore used.

Note on the chloride process:

- SO_x emissions only apply to the sulphate process.

The definition of waste given in Article 3 of the Waste Framework Directive 2008/98/EC of the European Parliament and of the Council applies³⁰. If the TiO₂ producer can satisfy Article 5 (by-product production) of the Waste Framework Directive for solid waste, this waste will be exempted.

²⁹ Derived from the Best Available Techniques Reference Document for the Production of Large Volume Organic Chemicals (BREF) (August 2007).

³⁰ Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives (OJ L 312 from 22/11/2008, p. 3).

Compliance Verification

The applicant shall verify compliance with the requirement by submitting declarations from the manufacturer of the titanium dioxide pigments used (Annex T) or shall ensure that this is submitted to RAL gGmbH.

3.1.6 Odour test (optional)

It is permitted to advertise the characteristic "low odour" on the container. If this characteristic is advertised, however, a test of the odour emissions must be carried out in combination with the emission test according to Paragraph 3.1.2 Indoor air quality. The internal plaster must not display an odour intensity of more than 7 pi after 28 days if the product is advertised with the phrase "low odour".

Compliance Verification

The applicant shall submit a test report in accordance with the DIN ISO 16000-28³¹ standard in combination with VDI 4302 (Annex 2).

3.2 Special requirements

3.2.1 Application/purpose of the plastering work

The internal plaster must be suitable for the intended application in accordance with DIN EN 13914-2³² and the national supplement DIN 18550-1/-2³³.

Compliance Verification

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

3.2.2 Fitness for use

The internal plaster according to Paragraph 2 must fulfil the usual quality requirements with respect to fitness for use for its respective product group (e.g. mortar group, stability, adhesive strength, compressive strength, minimum thickness, yield, fire behaviour, water absorption, diffusion resistance, granulation) according to the relevant DIN standard.

Compliance verification

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

3.2.3 Advertising claims

- The type of internal plaster according to Paragraph 2 must be stated on the container together with the product designation. The binder base must also be stated on the technical data sheet.
- If the product complies with the requirement for the odour test in Paragraph 3.1.6, it is permitted to advertise the internal plaster with the claim "low odour".

³¹ DIN EN ISO 16000-28: Determination of odour emissions from building products using test chambers

³² DIN EN 13914-2 - Design, preparation and application of external rendering and internal plastering Part 2: Internal plastering

³³ DIN 18550-1 /-2 - Design, preparation and application of external rendering and internal plastering - Part 1: Supplementary provisions for DIN EN 13914-1 for external rendering

- Advertising claims that contain terms such as “Bio”, “Eco”, “Natural”, “Façade”, “Fungal” “Insect” or “Nano” as part of the name or description are not permitted.
- Advertising claims must not include claims in the sense of Article 25 (4) of the CLP Regulation (EC) No. 1272/2008¹³) that could play down the risks such as e.g. “non-toxic”, “non-harmful to health” or similar claims. An exception is the phrase “preservative-free”³⁴.

Compliance Verification

The applicant shall declare compliance with the requirement in Annex 1 and submit the corresponding technical data sheet (Annex 7) and the container text (Annex 8).

3.2.4 Instructions

3.2.4.1 General instructions

In addition to the obligatory P-phrases in accordance with the CLP Regulation (EC) No. 1272/2008, the following information must also be stated on the container and the technical data sheet in an easy to read form (comparable wording is permitted):

the following information must be stated on the container and the technical data sheet in an easy to read form (comparable wording / P-phrases are permitted):

- “Keep out of the reach of children.”
- “Ensure good ventilation during application and drying.”
- If the product can be applied by spraying: “Use an A2/P2 combination filter and protective goggles for the spray mist.”
- “Do not eat, drink or smoke when handling the plaster.”
- “In case of contact with skin or eyes, rinse immediately with plenty of water.”
- “Do not allow to enter drains, water bodies, ground or soil.”
- “Clean tools with plenty of water and soap immediately after use.”
- “Only pass on empty containers for recycling. Dried product residues can be disposed of as household waste.”

The ingredients in the internal plaster according to Paragraph 2 must be stated on the technical data sheet in accordance with the “Guideline on the declaration of paints, lacquers, varnishes, renders, fillers, primers and related products” (VdL Guideline 01)²⁷. The information must comply with at least the requirements in the 6th revised version from January 2018.

The relevant application (ceiling, wall or wall/ceiling) must be advertised on the container.

In addition, the container must contain a clear reference to the technical data sheet, information on where it can be found and a telephone number for the manufacturer where the consumer can receive further information. The technical data sheet must be available on the Internet on the manufacturer's or distributor's website and/or under the product information on www.blauer.engel.de.

The application possibilities must be stated on the technical data sheet.

An additional QR code can be optionally provided on the container.

3.2.4.2 Additional instructions for labelled internal plasters

In the case of internal plasters that must be labelled with the pictograms GHS05 (caustic effect) or GHS07 (exclamation mark) according to chemical law, the following information

³⁴ According to VdL Guideline 01.

must also be stated on the container and the technical data sheet in an easy to read form in addition to the information in Paragraph 3.2.4.1 (comparable wording / P-phrases are permitted):

- "Wear protective goggles!"
- "If plaster comes into contact with your eyes, immediately rinse them with lots of water and consult an ophthalmologist."
- "Protect your hands using waterproof, robust gloves!"
- "Wear long trousers!"
- "Avoid prolonged skin contact with the plaster. Thoroughly clean any affected areas of the skin immediately using water."
- "The longer fresh plaster remains on the skin, the greater the danger of serious skin damage."
- "Keep children away from fresh plaster!"
- "The safety instructions issued by the manufacturer must be strictly followed during the application phase."

Verifications for Paragraphs 3.2.4.1 - 3.2.4.2

The applicant shall declare compliance with the requirement in Annex 1 and submit the corresponding technical data sheet (Annex 7) and the container text (Annex 8).

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, 2019. They shall be extended by periods of one year each, unless terminated in writing by March 31, 2019 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.

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Appendix A Assignment of hazard categories and hazard statements

The following table assigns the hazard categories stated in Paragraph 3.1.1 to the corresponding hazard statements (H Phrases) according to the CLP Regulation (EC) No. 1272/2008.

Hazard categories	H Phrases	Hazard statements
Carcinogenic substances		
Carc. 1A	H350	May cause cancer.
Carc. 1B	H350	May cause cancer.
Carc. 1A, 1B	H350i	May cause cancer if inhaled.
Germ cell mutagenic substances		
Muta. 1A	H340	May cause genetic defects.
Muta. 1B	H340	May cause genetic defects.
		Reprotoxic (teratogenic) substances
Repr. 1A, 1B	H360D	May damage the unborn child.
Repr. 1A, 1B	H360F	May damage fertility.
Repr. 1A, 1B	H360FD	May damage fertility. May damage the unborn child.
Repr. 1A, 1B	H360Df	May damage the unborn child. Suspected of damaging fertility.
Repr. 1A, 1B	H360Fd	May damage fertility. Suspected of damaging the unborn child.
Acute toxicity substances		
Acute Tox. 1 Acute Tox. 2	H300	Fatal if swallowed
Acute Tox. 1 Acute Tox. 2	H310	Fatal in contact with skin
Acute Tox. 1 Acute Tox. 2	H330	Fatal if inhaled
Substances with specific target organ toxicity		
STOT SE 1	H370	Causes damage to organs.
STOT RE 1*	H372	Causes damage to organs through prolonged or repeated exposure.
Environmental hazards		
Aquatic acute 1	H400	Very toxic to aquatic life.
Aquatic chronic 1	H410	Very toxic to aquatic life with long-lasting effects.
Aquatic chronic 2	H411	Toxic to aquatic organisms with long-lasting effects.

* If the classification and toxicological evaluation of the substance is based on the classification of the respirable fraction of the substance (dusts) and does not relate to the substance in general, classification as STOT RE 1 does not represent a criterion for exclusion in accordance with Paragraph 3.2.1 "Exclusion of Substances" (asbestos-containing dust is excluded).

Appendix B Liquid chromatography analysis (HPLC/UV detection) for determining the preservative content (isothiazolinone) and determining the free formaldehyde

1 Liquid chromatography analysis (HPLC/UV detection) for determining the isothiazolinone content

Methanol is added to the sample to be analysed and homogenised using a magnetic stirrer. The suspension is then centrifuged and the remaining solution (supernatant) is filtered using a syringe filter unit (pore size: 0.2 µm).

The resulting methanol extract is analysed using liquid chromatography (HPLC/UV detection) and any isothiazolinones present are identified based on their retention times.

The analytical tests for the isothiazolinone content must be performed twice (double determination) and quantified using the method described in the external standard.

If other preservatives are detected during the analysis, these must also be stated in the test report.

2 Determining the free formaldehyde:

Two test methods are permitted:

a) according to the Guideline for the determination of the formaldehyde concentration in water-soluble paints and varnishes, and polymer dispersions ("VdL Guideline 03 on Formaldehyde Determination")³⁵,

b) the same as a), although the concentration of free formaldehyde in the product can be determined using high pressure liquid chromatography (HPLC) if the testing laboratory can establish the comparability with VdL Guideline 03.

The verification test must be performed twice (double determination).

³⁵ <http://www.wirsindfarbe.de/service-publikationen/vdl-richtlinien/vdl-richtlinie-zur-bestimmung-der-formaldehydkonzentration-in-wasserverduennbaren-beschichtungsstoffe/>

Appendix C Bibliography

- [1] Decopaint Directive: Implemented in Germany in the “German chemical directive limiting VOC emissions by restricting the sale of paints and varnishes containing solvents (Directive for solvent-based paints and varnishes – ChemVOCFarbV) from 16 December 2004, as amended.
- [2] 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), as amended.
- [3] 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, in short: CLP Regulation (Classification, Labelling and Packing), as amended.
- [4] From 1 December 2010, the European Chemicals Agency (ECHA) introduced a classification and labelling inventory (“C&L Inventory”) according to Article 113 / 114 of Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18 December 2006 (REACH Regulation), see http://echa.europa.eu/clp/c_l_inventory_de.asp
- [5] TRGS 905, directory of carcinogenic, mutagenic or teratogenic substances from the Committee for Hazardous Substances (AGS), as amended: [TRGS 905](#). The TRGS lists such CMR substances that have not received harmonised classifications up to now or where the AGS has come to a different classification. The CMR complete list published by the Institute for Occupational Safety and Health of the German Social Accident Insurance can also be used as a reference tool: [CMR complete list](#).
- [6] List of MAK and BAT values, Senate Commission for the investigation of health hazards of chemical compounds in the work area, as amended.
- [7] DIN 998-1 Specification for mortar for masonry - Part 1: Rendering and plastering mortar
- [8] DIN 18550-1 /-2 - Design, preparation and application of external rendering and internal plastering - Part 1: Supplementary provisions for DIN EN 13914-1 for external rendering
- [9] DIN 18947 - Earth plasters - Requirements, test and labelling
- [10] DIN EN 13279 - Gypsum binders and gypsum plasters - Part 1: Definitions and requirements
- [11] DIN EN 13914-2 - Design, preparation and application of external rendering and internal plastering - Part 2: Internal plastering
- [12] DIN EN 13963 - Jointing materials for gypsum boards - Definitions, requirements and test methods
- [13] DIN EN 15824 - Specifications for external renders and internal plasters based on organic binders
- [14] DIN EN 16402 Paints and varnishes - Assessment of emissions of substances from coatings into indoor air - Sampling, conditioning and testing; German version EN 16402:2013
- [15] DIN EN 16516 Construction products - Assessment of release of dangerous substances - Determination of emissions into indoor air; German version EN 16516:2017
- [16] DIN ISO 16000-28 – Indoor air - Part 28: Determination of odour emissions from building products using test chambers (ISO 16000-28:2012)
- [17] VdL Guideline 01: Guideline on the declaration of paints, lacquers, varnishes, renders, fillers, primers and related products, 6th revised version January 2018; publisher: German

Paint and Printing Ink Association (Verband der deutschen Lack- und Druckfarbenindustrie e. V.), Frankfurt am Main

[18] VdL Guideline 03: Guideline for the determination of the formaldehyde concentration in water-dilutable paints and varnishes, and polymer dispersions

[19] VdL Guideline 11: Consumer products