

BLUE ANGEL

The Environmental Label



Dishwasher detergents

DE-UZ 201

Basic Award Criteria

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The Environmental Label is supported by the following four institutions:



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



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



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



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

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Table of contents

1	Introduction	3
1.1	Preface.....	3
1.2	Background.....	3
1.3	Objective of the environmental label.....	4
1.4	Compliance with legal requirements.....	4
1.5	Definitions	5
2	Scope	7
3	Requirements	7
3.1	Assessment and testing requirements.....	7
3.1.1	Measurement thresholds.....	7
3.1.2	Functional unit.....	10
3.1.3	Reference dosage.....	10
3.1.4	Testing institutions	10
3.2	Renewable raw materials in surfactants	11
3.3	Requirements for renewable raw materials in the production of surfactants	11
3.4	Biodegradability of surfactants	11
3.5	Biodegradability of organic substances	12
3.6	Toxicity to aquatic organisms	13
3.7	General exclusion of substances with certain properties	14
3.8	Exclusion of substances.....	18
3.9	Requirements for specific substances	19
3.9.1	Biocides	19
3.9.2	Fragrances.....	20
3.9.3	Colouring agents.....	21
3.10	Labelling of the end product	21
3.11	Fitness for use.....	21
3.12	Packaging requirements.....	22
3.13	Consumer information	25
3.13.1	Advertising messages	25
3.13.2	Dosage instructions.....	25
3.13.3	Information on the packaging	25
3.13.4	Safety Instructions.....	26
4	Overview of possible future requirements	26
5	Applicants and parties involved.....	26
5.1	Parties involved in the award process are:	26
6	Use of the Environmental Label	27

Appendixes to the Basic Award Criteria:

Appendix 1	Renewable raw materials in surfactants, requirement for renewable raw materials in the production of surfactants
Appendix 2	Fitness for use
Appendix	DID List 2014, Part A / DID List 2014, Part B

This document is a translation of an original in German. 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, Building 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.

1.2 Background

Washing and cleaning agents are used on a daily basis for maintaining cleanliness and hygiene. Approx. 480,000 tonnes of these cleaning and care agents are sold each year in Germany, whereby dishwashing detergents account for around 260,000 tonnes.¹ All of these products contain ingredients that find their way into the wastewater system and can have a negative effect on the environment and human health. If these components cannot be completely retained or degraded in sewage treatment plants, they will enter into bodies of water and can be ingested by water organisms and, in some circumstances, enriched. In addition, washing and cleaning agents can contain substances relevant to health e.g. certain preservatives or allergenic fragrances.

An important component of dishwasher detergents are surfactants. These can be manufactured based on petrochemicals and/or renewable raw materials. The use of sustainably produced raw materials makes a significant contribution to sustainable development. In order to ensure this is the case, the cultivation of the plants is subject to ecological, social and economic requirements. Criteria for sustainable cultivation are currently being discussed in different initiatives and reliable certification systems for recording and labelling this type of cultivation are being developed or are establishing themselves on the market. This is particularly true for palm (kernel) oil. Certification systems are part of the solution for achieving sustainable palm (kernel) oil production, although they cannot solve all of the problems in the sector on their own. There are a variety of trading models for buying and selling sustainable certified palm (kernel) oil.

¹ www.umweltbundesamt.de/themen/chemikalien/wasch-reinigungsmittel/umweltbewusst-waschen-reinigen

They differ in terms of the extent to which sustainable and conventional goods are kept physically separate or mixed during the supply chain and only the sustainability certificates are traded.

The separation and traceability of the raw materials (segregation) is currently not always possible in the case of palm (kernel) oil used for the manufacturing of surfactants. An interim solution that currently exists is the possibility of supporting sustainable cultivation using the mass balance of raw materials and trading certificates (Book & Claim System). This system involves the auditing of both plantations and also companies who manufacture end products containing surfactants in order to monitor and tally up the sum of the oils produced and the number of associated certificates sold with the surfactants actually added to products. In this process, the end product does not necessarily contain the palm (kernel) oil purchased via the certificate. However, it is important to ensure in the longer term that certified and segregated palm (kernel) oil is exclusively used in the product and other natural resources e.g. other oil plants or raw materials for the manufacture of citric acid or bioalcohol are integrated into the certification system. In future updates to the environmental label criteria, the further development of these certification systems for sustainable cultivation will be taken into account.

1.3 Objective of the environmental label

The following criteria are designed to promote the use of those dishwasher detergents that in the interests of the environment, climate and nature conservation have been produced in such a way that they have the least possible impact on the environment and human health during their production, use and disposal. In addition, they should also help to reduce and prevent the risks posed to the environment and human health through the use of hazardous substances and to minimise packaging waste. Furthermore, information should be provided that enables consumers to use the product both efficiently and with the least possible impact on the environment.

Preserving natural resources is also an important focus of this environmental label. Dishwasher detergents with the Blue Angel ecolabel should thus make a contribution to the protection of the environment through the use of renewable raw materials in their production that have been cultivated under sustainable conditions or which support sustainable cultivation.

1.4 Compliance with legal requirements

The observance of the currently valid versions of relevant existing laws and legal requirements is a prerequisite for those products awarded with the environmental

label. The substance requirements defined by Regulation (EC) No. 648/2004 (Detergents Regulation, DetVO)² on detergents, the Chemicals Regulation (EC) No.1907/2006³ and the CLP Regulation (Regulation (EC) No. 1272/2008)⁴ are observed.

1.5 Definitions

For the purpose of their use in these Basic Award Criteria, the following definitions are valid:

- **Substance**⁵: A chemical element and its compounds in the natural state or obtained by any manufacturing process, including any additive necessary to preserve its stability and any impurity deriving from the process used, but excluding any solvent which may be separated without affecting the stability of the substance or changing its composition.
- **Impurity**⁶: An unintended and not deliberately added constituent present in a substance as manufactured. Impurities may originate from the starting materials or be the result of incomplete or secondary reactions during the manufacturing process.
- **Mixture**⁷: Mix, mixture or solution composed of two or more substances.
- **End product**: Products labelled with the Blue Angel ecolabel and offered for sale on the market.
- **Microplastic**: Plastic particles with a size of between 100 nm and 5 mm.
- **Plastic**: A macromolecular substance with a water solubility < 1 mg/l, obtained through:
 - a) a polymerisation process such as e.g. polyaddition or polycondensation or a similar process using monomers or other starting substances; or
 - b) chemical modification of natural or synthetic micromolecules; or
 - c) microbial fermentation.

² Regulation (EC) No. 648/2004 of the European Parliament and of the Council of 31 March 2004 on detergents

³ Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC

⁴ 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.

⁵ REACH, Article 3, and CLP Regulation, Article 2

⁶ Guidance for identification and naming of substances under REACH and CLP, Version 1.2 March 2012, Chapter 2.2, P. 8, http://echa.europa.eu/documents/10162/13643/substance_id_de.pdf

⁷ Regulation (EU) 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

- **Nanomaterials:** A natural, incidental or manufactured material containing particles, in an unbound state or as an aggregate or as an agglomerate and where, for 50% or more of the particles in the number size distribution, one or more external dimensions is in the size range 1 nm - 100 nm.⁸
- **Monofunctional dishwasher detergent:** Cleaning agent without a rinse aid function for cleaning dishes in household dishwashers.
- **Multifunctional dishwasher detergent:** Cleaning agent with a rinse aid function and possibly further functions for cleaning dishes in household dishwashers.
- **Rinse aid:** Agent for reducing the surface tension and improving the drainage of water to avoid the formation of lime stains during the drying process on previously cleaned dishes in household dishwashers.
- **Household dishwasher:** A machine which cleans, rinses, and dries dishware, glassware, cutlery and cooking utensils by chemical, mechanical, thermal, and electric means and which is designed to be used principally for non-professional purposes.⁹
- **Sales packaging** (in the context of these Basic Award Criteria): All of the packaging contained in one sales unit (primary packaging = direct contact with the contents and, if relevant, a secondary packaging) as it is offered to the end user or consumer at a retail outlet in its smallest sales unit.
- **Transport packaging:** Transport packaging or delivery packaging is packaging that facilitates the transport of goods, protects the goods against damage during transport or which is used for reasons of safety of the transport.
- **Identity preserved:** Palm (kernel) oil from a specific production location that is sourced from sustainable plantations is kept separate from other palm (kernel) oils along the whole supply chain.
- **Segregation:** Palm (kernel) oil from different production locations that is sourced from sustainable plantations is kept separate from other non-certified palm (kernel) oils along the whole supply chain.
- **Mass balance:** Palm (kernel) oil from a certified production location that is sourced from sustainable plantations is monitored administratively along the supply chain; it is however mixed with non-certified palm (kernel) oil.

⁸ Recommendation of the European Commission from 18 October 2011 for the definition of nanomaterials
(<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:275:0038:0040:DE:PDF>)

⁹ Commission Regulation (EC) No. 1016/2010 of 10 November 2010 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for household dishwashers

- **Book & claim:** Sustainable plantations are promoted through the sale of certificates. Companies purchase these certificates via a trading platform (e.g. GreenPalm) based on the quantity of oil required for the production of surfactants.

2 Scope

The product group “dishwasher detergents” comprises detergents for dishes (monofunctional, multifunctional and rinse aids) that are exclusively designed for use in automatic household dishwashers and/or for automatic dishwashers designed for commercial use that are comparable in terms of their size and use to household dishwashers.

3 Requirements

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

If the applicant is required to submit declarations, documentation, analysis reports or other documentation in order to verify compliance with the criteria, these can come from the applicant and/or his/her suppliers and/or their suppliers, etc.

3.1 Assessment and testing requirements

Paragraph 3.5 refers to the "Detergent Ingredient Database" (DID list 2014), which contains the most widely used substances in dishwasher detergent formulations. The data found in this list shall be used for deriving the calculations for the Critical Dilution Volume (CDV) and for assessing the biodegradability of the substances. In the case of those substances not found on the DID list, guidance is given on how to calculate or extrapolate the relevant data. The DID list is published as an Appendix. In certain cases, RAL gGmbH can request additional verification and carry out independent tests.

3.1.1 Measurement thresholds

Every substance that exceeds a concentration of 0.010% by mass in the final formulation must comply with these Basic Award Criteria. This also applies to the raw materials used in the product, any listed additives and impurities.

In the case of substances dealt with by the following criteria, a deviating measurement threshold of 0.0010% by mass in the final formulation applies:

- 3.5 Biodegradability of organic substances

- 3.6 Toxicity to aquatic organisms
- 3.8 Exclusion of substances
- 3.9 Requirements for specific substances

There is no lower measurement threshold for fragrances.

If the product contains a water-soluble foil that is not removed before washing, the foil must be considered to be part of the product formulation for all requirements.

Table 1: Overview of the measurement thresholds for the requirement criteria.

Chapter	Criterion	Measurement threshold in percent by mass [% (w/w)]
3.2	Renewable raw materials in surfactants	≥ 0.010
3.3	Requirements for renewable raw materials in the production of surfactants	≥ 0.010
3.4	Biodegradability of surfactants	≥ 0.010
3.5	Biodegradability of organic substances	≥ 0.0010 (Colouring agents: no lower limit)
3.6	Toxicity to aquatic organisms	≥ 0.0010 (Colouring agents: no lower limit)
3.7 a)	General exclusion of substances with certain properties – a) Substances of very high concern (SVHC)	≥ 0.010 (Colouring agents: no lower limit)
3.7 b)	General exclusion of substances with certain properties – b) Substances classified with the H-phrases listed in accordance with Regulation (EC) No 1272/2008	≥ 0.010 (Colouring agents: no lower limit)
3.8	Exclusion of substances	≥ 0.0010
3.9.1	Requirements for specific substances – biocides	≥ 0.0010
3.9.2	Requirements for specific substances – fragrances	≥ 0.0010
3.9.3	Requirements for specific substances – colouring agents	no lower limit

3.1.2 Functional unit

The functional unit is the quantity of the product that is required to clean 12 place settings with a standard level of soiling in accordance with the definition in DIN or ISO standards.

3.1.3 Reference dosage

The reference dosage for monofunctional and multifunctional dishwashers under standard conditions is the dosage recommended by the manufacturer for normally soiled dishes (12 place settings), as defined in the IKW cleaning performance test (criterion 3.11). In the case of rinse aids, a reference dosage of 3 ml should be used.

Verification for the functional unit and reference dosage

The precise formulation including the following information shall be submitted to RAL gGmbH: Trading name, manufacturer or supplier, chemical name, CAS number, DID number, total content with and without water and the function of all ingredients (irrespective of their concentrations). In addition, a sample copy of the dosage instructions shall be submitted to RAL gGmbH.

The safety data sheets in accordance with Regulation (EC) No. 1907/2006 of the European Parliament and of the Council¹⁰ for all substances and mixtures added to the product shall be submitted. The safety data sheets may not be older than two years.

3.1.4 Testing institutions

The tests to be submitted to verify compliance with the requirements shall be carried out by testing institutions that fulfil the following requirements:

- The tests comply with the requirements of Good Laboratory Practice (Annex 1 of German Chemicals Act (ChemG)) or
- The testing institution has been notified or accredited according to DIN EN 17025 and these tests form part of this accreditation in terms of the fields being tested and the processes and specifications used.

Compliance verification

Verification of compliance is to be provided in the form of certification in accordance with Article 19b of the German Chemicals Act (ChemG) and a written declaration from

¹⁰ OJ L 396 from 30.12.2006.

the testing institution that the test was carried out according to the principles of Good Laboratory Practice or through submission of the accreditation certificate from Germany's National Accreditation Body (DAKKS) or another national accreditation system that has been included in the Multilateral Agreement (MLA).

3.2 Renewable raw materials in surfactants

The proportion of carbon from renewable raw materials in the total carbon in the surfactant system must be stated.

Compliance verification

The applicant shall confirm compliance with the requirement in Annex 1. The proportion of carbon from renewable raw materials is calculated based on the organic carbon (Annex 2) and verified with a declaration by the surfactant manufacturer. Appendix 1 should be observed for the calculation.

3.3 Requirements for renewable raw materials in the production of surfactants

If surfactants produced from palm oil and palm kernel oil are used, the sustainable cultivation of the oil plants on certified plantations is to be supported.

Compliance verification

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

A mass balance shall be submitted at the latest after the Blue Angel ecolabel has been used for the first 15 months and then additionally on request from RAL gGmbH (Annex 2).

The verification shall be submitted in the form of either the proof of purchase from the surfactant supplier (segregated or mass balance) or if relevant the purchased certificates (Book & Claim). The following certification systems are recognised: RSPO (Roundtable on Sustainable Palmoil), ISCC+ (International Sustainability & Carbon Certification), Rainforest Alliance, RSB (Roundtable on Sustainable Biomaterial)¹¹ (Appendix 1).

3.4 Biodegradability of surfactants

All of the surfactants contained in the end product must be readily biodegradable¹² under aerobic conditions and biodegradable under anaerobic conditions.

Compliance verification

¹¹ It is possible that other certification systems will be accepted after they have been investigated by the Federal Environmental Agency.

¹² In accordance with the regulations in Directive (EC) No. 648/2004.

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

The precise formulation of the end product shall be submitted to RAL gGmbH together with an explanation of the function of every individual substance in Annex 2. Part A of the DID list indicates whether a certain surfactant is aerobically or anaerobically biodegradable (those surfactants with an "R" in the column for aerobic biodegradability are readily biodegradable, while those surfactants with a "Y" in the column for anaerobic biodegradability are biodegradable under anaerobic conditions). The list is not comprehensive, but guidance is given in Part B of the list concerning the determination of the relevant calculation parameters for substances not present on the DID list. For those surfactants which are not included in Part A of the DID list or those surfactants classified with an "O" in the column for anaerobic biodegradability, relevant information from literature or other sources or corresponding test results shall be submitted to verify that these surfactants are biodegradable under anaerobic conditions. The reference test for anaerobic degradability shall be the OECD test 311, the ISO standard 11734 or an equivalent test method, with the requirement of 60% ultimate degradability under anaerobic conditions. In order to verify at least 60% ultimate degradability under anaerobic conditions, test processes can also be used that simulate the conditions in a corresponding anaerobic environment.

3.5 Biodegradability of organic substances

The content of organic substances in the product that are aerobically not readily biodegradable and anaerobically non-biodegradable shall not exceed the maximum limits stated in Table 2.

Table 2: Maximum limits for the content of not readily biodegradable organic substances based on the product type, standardised for the cleaning performance under standard conditions, where aNBO = aerobically not readily biodegradable; anNBO = anaerobically non-biodegradable; values stated in g/cleaning cycle.

Type of product	Highest content values	
	aNBO	anNBO
Monofunctional dishwasher detergent	1.00	3.00
Multifunctional dishwasher detergent	1.25	3.00
Rinse aid	0.15	0.50

Compliance verification

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

In order to calculate the aNBO and anNBO values, there is an Excel file available for this purpose on the Blue Angel website (Annex 2). The DID list is authoritative here. In the case of ingredients not included in the DID list, relevant information from literature or other sources or corresponding test results shall be submitted to verify that these ingredients are biodegradable under aerobic and anaerobic conditions.

3.6 Toxicity to aquatic organisms

The critical dilution volume $CDV_{chronic}$ is the sum of the critical dilution volume $CDV_{(i)}$ for each substance (i) in the end product, standardised for a cleaning cycle using the reference dosage RDos:

	$CDV_{chronisch} = \sum_{i=1}^n CDV_{(i)} = CDV_{(1)} + CDV_{(2)} + \dots + CDV_{(n)}$	
<u>with</u>	$CDV_{(i)} = \frac{Weight_{(i)} \cdot DF_{(i)} \cdot 1000}{TF_{chronisch(i)}}$	
<u>as well as</u>	$Weight_{(i)} = Proportion_{(i)} \cdot RDos$	
<u>and</u>	$CDV_{chronic}$	Critical dilution volume of the end product [l/cleaning cycle]
	$CDV_{(i)}$	Critical dilution volume of the substance (i) [l/cleaning cycle]
	$Weight_{(i)}$	Weight of the substance (i) in the reference dosage [g/cleaning cycle]
	$DF_{(i)}$	Degradation factor of the substance (i)
	$TF_{chronic(i)}$	Chronic toxicity factor of the substance (i) [mg/l]
	Factor 1000	Conversion factor for $TF_{chronic(i)}$ [mg/g]
	$Proportion_{(i)}$	Proportion of the substance (i) in the end product [% or g/100 g]
	RDos	Reference dosage [g]

The parameters DF and $TF_{chronic}$ shall be taken from Part A of the Detergent Ingredient Database (DID list) (Appendix). If the substance in question is not included in Part A of the DID list, the applicant shall estimate the values in accordance with the approach stated in Part B of the DID list (Appendix). The sum of $CDV_{chronic}$ for the individual substances gives the $CDV_{chronic}$ for the end product.

The chronic dilution volume of the product must not exceed the following maximum limits ($CDV_{chronic}$):

Type of product	Limit value for $CDV_{chronic}$
Monofunctional dishwasher detergent	20 000 l/cleaning cycle
Multifunctional dishwasher detergent	24 000 l/cleaning cycle
Rinse aid	5 000 l/cleaning cycle

Compliance verification

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

The precise formulation of the end product, together with the individual details of the calculation of the $CDV_{chronic}$ demonstrating compliance with this criterion, shall be submitted to RAL gGmbH in Annex 2.

3.7 General exclusion of substances with certain properties

The use of the following substances is not permitted in order to protect the environment and human health. In the case of mixtures e.g. fragrances where it is not possible to obtain information about the individual substances, the classification rules for mixtures shall be applied.

a) Substances of very high concern (SVHC)

It is prohibited to use substances in end products labelled with the Blue Angel ecolabel that have been identified in accordance with Article 57 of Regulation (EC) No. 1907/2006 and listed in accordance with Article 59 of the same regulation on the list of candidates (<http://echa.europa.eu/web/guest/candidate-list-table>) for inclusion on the Annex of substances subject to authorisation. Impurities in substances added to the end product that correspond to the above named criteria are not permitted.

The label holder is obligated to take into account current developments on the list of candidates.

b) Substances which according to the criteria of Regulation (EC) No 1272/2008¹³ are assigned the following H Phrases named in the table or which meet the criteria for such classification.

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

Regulation (EC) No. 1272/2008 (GHS Regulation)	Wording
Toxic substances	
H300	Fatal if swallowed
H301	Toxic if swallowed
H304	May be fatal if swallowed and enters airways
H310	Fatal in contact with skin
H311	Toxic in contact with skin
H330	Fatal if inhaled
H331	Toxic if inhaled
H370	Causes damage to organs
H371	May cause damage to organs
H372	Causes damage to organs through prolonged or repeated exposure
H373	May cause damage to organs through prolonged or repeated exposure
Carcinogenic, mutagenic and reprotoxic substances	
H340	May cause genetic defects
H341	Suspected of causing genetic defects
H350	May cause cancer
H350i	May cause cancer if inhaled
H351	Suspected of causing cancer
H360F	May damage fertility
H360D	May damage the unborn child
H360FD	May damage fertility May damage the unborn child
H360Fd	May damage fertility Suspected of damaging the unborn child
H360Df	May damage the unborn child Suspected of damaging fertility
H361f	Suspected of damaging fertility
H361d	Suspected of damaging the unborn child
H361fd	Suspected of damaging fertility Suspected of damaging the unborn child
H362	May cause harm to breast fed children
Water-hazardous substances	
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long-lasting effects
H411	Toxic to aquatic life with long-lasting effects

H412	Harmful to aquatic life with long lasting effects
H413	May cause long lasting harmful effects to aquatic life
Other Health and Environmental Effects	
H420 ¹⁴	Harms public health and the environment by destroying ozone in the upper atmosphere (replaces EUH059)
EUH029	Contact with water liberates toxic gas
EUH031	Contact with acids liberates toxic gas
EUH032	Contact with acids liberates very toxic gas
EUH070	Toxic by eye contact
Sensitizing substances	
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H317	May cause an allergic skin reaction

The use of substances or mixtures which upon processing change their properties (e.g. become no longer bioavailable, undergo chemical modification) in a way that the identified hazard no longer applies are exempted from the above requirement.

¹⁴ Commission Regulation (EC) No. 286/2011 from 10 March 2011 amending Regulation (EC) No. 1272/2008

Deviations: The following substances or mixtures are specifically exempted from the above requirement:

Surfactants	H400	Very toxic to aquatic life
	H411	Toxic to aquatic life with long-lasting effects
	H412	Harmful to aquatic life with long lasting effects
Biocides used for preservation purposes	H400	Very toxic to aquatic life
	H410	Very toxic to aquatic life with long-lasting effects
	H411	Toxic to aquatic life with long-lasting effects
	H412	Harmful to aquatic life with long lasting effects
	H413	May cause long lasting harmful effects to aquatic life
Fragrances	H412	Harmful to aquatic life with long lasting effects
	H413	May cause long lasting harmful effects to aquatic life
Enzymes (*)	H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
	H317	May cause an allergic skin reaction
	H400	Very toxic to aquatic life
	H411	Toxic to aquatic life with long-lasting effects
Bleach	H412	Harmful to aquatic life with long lasting effects
Bleach catalysts (*)	H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
	H317	May cause an allergic skin reaction
NTA as an impurity in MGDA and GLDA (**)	H351	Suspected of causing cancer

(*) Including stabilisers and other auxiliary substances in the preparations.

(**) In concentrations lower than 0.20% in the raw material as long as the total concentration in the end product is lower than 0.10%.

Compliance verification

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

In the event of changes to the list of candidates that are relevant for the respective dishwasher detergent, the applicant shall inform RAL gGmbH within one month in the event that the end product does not comply with this criterion.

The applicant shall submit the exact formulation of the end product in Annex 2. The applicant shall verify that the substances contained in the end product comply with this criterion by providing information that fulfils at least those requirements according to Annex VII of Regulation (EC) No. 1907/2006. Such information shall be specific to the particular form of the substance, including nanoforms, used in the end product. For that purpose, the applicant shall submit a declaration of compliance with this criterion, together with information on the type (IUPAC nomenclature and CAS number) and content (% by mass) of all substances added to the product and the related safety data sheets in accordance with Annex II to Regulation (EC) No 1907/2006 for the end product, as well as for all substances or mixtures listed in the formulation(s). Concentration limits shall be specified in the safety data sheets in accordance with Article 31 of Regulation (EC) No. 1907/2006. The safety data sheets may not be older than two years. The manufacturer shall submit the declarations from the suppliers of primary/intermediate products.

3.8 Exclusion of substances

The following substances are not permitted in the end product, either as part of the formulation or as part of any preparation added to the formulation:

- Alkyl phenol ethoxylates (APEO) and alkyl phenol ethoxylate derivatives
- Phosphates
- EDTA (ethylenediaminetetraacetic acid and its salts)
- DTPA (diethylenetriaminepentaacetic acid and its salts)
- Perborate
- Reactive chlorine compounds
- 5-bromo-5-nitro-1,3-dioxane
- Formaldehyde and formaldehyde releasers, e.g. (INCI designations):
 - 2-Bromo-2-Nitropropane-1,3-Diol
 - Diazolidinyl Urea
 - Sodium Hydroxymethylglycinate

- Dimethylol Glycol
- Dimethylol Urea
- DMDM-Hydantoin
- Quaternium-15
- Tetramethyloglycoluril
- Nanosilver
- Hydroxyisohexyl 3-cyclohexene carboxaldehyde (HICC)
- Atranol and Chloratranol
- Nitromusks and polycyclic musks including e.g.:
 - musk xylene: 5-tert-butyl-2,4,6-trinitro-*m*-xylene
 - musk ambrette: 4-tert-butyl-3-methoxy-2,6-dinitrotoluene
 - moskene: 1,1,3,3,5-pentamethyl-4,6-dinitroindan
 - musk tibetine: 1-tert-butyl-3,4,5-trimethyl-2,6-dinitrobenzene
 - musk ketone: 4'-tert-Butyl-2',6'-dimethyl-3',5'-dinitroacetaphenol
- HHCB: 1,3,4,6,7,8-hexahydro-4,6,6,7,8,8,-hexamethylcyclopenta(g)-2-benzopyran
- AHTN (6-acetyl-1,1,2,4,4,7-hexamethyltetrali)
- Benzotriazole and benzotriazole derivatives
- Microplastics

Compliance verification:

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

The applicant shall submit a declaration from the manufacturers of the raw materials to verify that the listed substances are not contained in the end product.

3.9 Requirements for specific substances

These special requirements for specific substances are valid in addition to the general requirements for substances.

3.9.1 Biocides

- a) The end product may only include biocides in order to preserve the product and in the appropriate dosage for this purpose. This does not refer to surfactants, which may also have biocidal properties.

Compliance verification

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

The applicant shall submit the safety data sheets for every preservative added to the product, as well as information about the exact concentrations of these substances in the end product. The manufacturer or supplier of the preservatives shall submit information about the dosage required to preserve the end product.

- b) It is prohibited to state or suggest on the packaging or by any other means that the product has an antimicrobial action.

Compliance verification

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

The applicant shall submit the texts and layouts used for each individual type of packaging and/or a sample of each individual type of packaging to RAL gGmbH.

- c) No biocides whose log Pow (octanol-water partition coefficient) is ≥ 3.0 or experimentally determined bioconcentration factor (BCF) is > 100 may be contained in the end product.

Compliance verification

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

The applicant shall submit the log Pow or BCF value for the biocides (Annex 2).

3.9.2 Fragrances

- a) All of the substances added to the end product as fragrances must have been manufactured and/or handled in accordance with the code of practice of the International Fragrance Association (IFRA). The code of practice is available on the IFRA website: <http://www.ifraorg.org>. The recommendations contained in the IFRA Standards concerning the prohibition, restricted use and specified purity criteria for materials shall be followed by the manufacturer.
- b) Fragrances that are subject to labelling as detergents in accordance with Annex VII of Regulation (EC) No. 648/2004 of the European Parliament and of the Council on detergents and which are not already excluded by criterion 3.7, as well as (other) fragrances classified as H317 (May cause an allergic skin reaction) and/or H334 (May cause allergy or asthma symptoms or breathing difficulties if inhaled) must not be present in concentrations $\geq 0.010\%$ (≥ 100 ppm) per substance.

Compliance verification

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

The applicant shall submit a declaration about compliance with this criterion with information about the amount of fragrances contained in the end product. In addition, the applicant shall also submit a declaration from the fragrance manufacturer specifying the content of each of the substances contained in the fragrance which are listed in Annex III of Regulation (EC) No. 1223/2009¹⁵, as well as the content of (other) substances which have been assigned the risk phrases H317 and/or H334.

3.9.3 Colouring agents

Colouring agents in the product must not be bioaccumulating. A colouring agent is considered to be non-bioaccumulating if the bioconcentration factor (BCF) is < 100 or the log Pow is < 3.0. If the values for both the BCF and the log Pow are available, the highest measurement for the BCF is valid. If using colouring agents that have been approved for use in foodstuffs, no documentation about the bioconcentration factor needs to be submitted.

Compliance verification

The applicant shall submit safety data sheets about all colouring agents added to the product and the values for their BCF and/or log Pow or documentation that verifies that the colouring agent is approved for use in foodstuffs.

3.10 Labelling of the end product

The end product is not permitted to be classified as H400, H410, H411, H412, H314 or H317 in accordance with the CLP Regulation (Regulation (EC) No. 1272/2008).

Compliance verification

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

In addition, the applicant shall submit the exact formulation of the end product in Annex 2, as well as the product label and safety data sheet for the end product.

3.11 Fitness for use

The monofunctional or multifunctional dishwasher detergent must achieve a cleaning performance using the recommended dosage that at least corresponds to a reference detergent or reference rinse aid in accordance with the standard test developed by the IKW (expected publication in 2016).

¹⁵ OJ L 342 from 22.12.2009

If a multifunctional product also has rinse aid and salt functions, the effectiveness of these functions must also be verified in a test.

In the case of rinse aids, only the rinse aid function needs to be verified in a test.

The precise testing and evaluation conditions are defined in Appendix 2 to these Basic Award Criteria.

Compliance verification

The applicant shall declare compliance with the requirements in Annex 1 and submit the test results from testing institutions (regarding the cleaning performance or the rinse air and/or salt function) in accordance with the guidelines stated in Appendix 2 to verify compliance.

3.12 Packaging requirements

- a)** The weight utility ratio (WUR) of the end product must not exceed the following values:

Type of product	WUR
Dishwasher detergent	2.4 g/reference dosage
Rinse aid	0.4 g/reference dosage

The WUR is only calculated for the sales packaging (including dosage aids, if enclosed in the packaging for every unit)) using the following formula:

$$WUR = \sum((W_i + U_i) / (D_i * r_i))$$

Key for the calculation formula:

W_i : the weight [g] of the packaging components (i) including the label if applicable.

U_i : the weight [g] of non-recycled (virgin) material in the packaging components (i). If the proportion of recycled material (from post-consumer waste) in the packaging components is 0% then $U_i = W_i$.

D_i : the number of functional units contained in the packaging component (i).

r_i : recycling figure i.e. the number of times the packaging component (i) is used for the same purpose through a return or refill system. The default value for r is 1 (i.e. single use, non-returnable packaging). Only when the applicant can document that the

packaging component is reused for the same purpose can a higher value for r be used in the formula.

If multiple types of different packaging are offered, the WUR criterion must be fulfilled for each individual type of packaging. This is also true for sales samples or refill packs.

If a refill pack is offered separately, the rE for the initial packaging shall be increased to a value >1 , whereby rE is calculated in accordance with the following formula:

$$rE = ((D_E * A_E) + (D_N * A_N)) / (D_E * A_E)$$

Key for the calculation formula:

A: Number of packaging units sold (or produced). The subscript E describes the initial packaging, the subscript N the refill pack.

If a refill pack is offered together with the initial packaging in one sales unit, D is the sum of the functional doses for both primary packagings and W (see formula for WUR) is the sum of the weights of both primary packagings.

If a refill pack is offered separately to the initial packaging and is only offered for the first time when the application is made, verification of the number of packaging units sold (or produced) shall be automatically submitted without request by the applicant one year after the contract has been concluded.

- b)** Packaging made out of halogenated polymers is not permitted.
- c)** Paper/cardboard used in the sales packaging must be manufactured using at least 80% recycled materials. In the case of secondary packaging that also serves as transport packaging, the proportion of recycled materials must be at least 70%. Packaging materials are considered recycled if product waste (post-consumer waste) has been subjected to a material recycling process.

d) Design of recyclable plastic packaging

Plastic packaging must be designed for the purpose of easy recycling i.e. no potential hazardous materials, incompatible materials or construction techniques should be used that are known to hinder the separation or recycling of the materials or reduce the quality of the recycled materials. No individual or combination of materials or components listed in the following table may be contained in the labels or sleeves, closures and, if relevant, barrier coatings.

Materials and components that are excluded from use as a packaging component

Packaging component	Excluded materials and components
All components	<ul style="list-style-type: none"> – Components in the EuPIA list (exclusion list for printing inks and related products)
Label or sleeve	<ul style="list-style-type: none"> – PS label or PS sleeve in combination with a PP, HDPE or PET bottle – A PETG or PETC label or a PETG sleeve or PETC sleeve in combination with a PET bottle – Sleeves made of a different polymer than the bottle – Labels or sleeves that are metallised or labels or sleeves that are welded without a seam to a packaging body (in mould labelling) with PET bottles – Non water-soluble adhesives in combination with moisture-resistant labels with a PE or PP bottle, non soluble adhesive (in water or alkaline at 80°C) for PET bottles
Closures	<ul style="list-style-type: none"> – A PS closure in combination with a PP, HDPE or PET bottle – PETG closures and/or PETG closure material and other plastic closure components with a density of above 1 g/cm³ in combination with a PET bottle – Closures made of metal, glass, EVA – Closures made of silicone. Exempted are silicone closures with a density < 1 g/cm³ in combination with a PET bottle and silicone closures with a density > 1g/cm³ in combination with a PP or HDPE bottle – Silicon components with PE and PP bottles – Components made out of foamed elastomers with a PE and PP bottle – Elastomer components with a density > 1 g/cm³ with a PET bottle – Metallic foils or seals which remain fixed to the bottle or its closure after the product has been opened
Barrier coatings	<ul style="list-style-type: none"> – Polyamide, EVOH, functional polyolefins, metallised and light blocking barrier coatings
<p>EVA — Ethylene vinyl acetate, EVOH — Ethylene vinyl alcohol, HDPE — High-density polyethylene, PET — Polyethylene terephthalate, PETG — Polyethylene terephthalate glycol-modified, PETC — Crystalline polyethylene terephthalate, PP — Polypropylene, PS — Polystyrene</p>	

Compliance verification

The applicant shall declare compliance with the requirements in Annex 1 and submit the composition of the plastic packaging in Annex 2.

The applicant shall submit a calculation of the WUR for the end product in Annex 2. If a refill pack is offered separately to the initial packaging and is only offered for the first time when the application is made, verification of the number of packaging units sold (or produced) shall be automatically submitted without request by the applicant one

year after the contract has been concluded along with Annex 2 and supporting documentation.

The applicant shall submit verification of the proportion of recycled materials in the packaging.

3.13 Consumer information

3.13.1 Advertising messages

It is not permitted to advertise the product in combination with the word "nano". It is prohibited to state or suggest on the packaging or by any other means that the product has an antimicrobial action (see 3.9.1).

Compliance verification

The applicant shall declare compliance with the requirement in Annex 1 and submit a product label to RAL gGmbH.

3.13.2 Dosage instructions

Dosage instructions must appear on the packaging. In particular, information must also be provided on how the best results can be achieved with the dishwasher detergent depending on the level of soiling.

A dosing aid must be provided free of charge on request for dishwasher detergents that need to be measured out by the end consumer. If the dosing aid is not enclosed with every packaging unit or it cannot be stocked at the retail outlet, it must be possible to request it via a free hotline, via email or via the Internet and the subsequent delivery must be completed free of charge.

Compliance verification

The applicant shall declare compliance with the requirement in Annex 1 and submit a product label to RAL gGmbH.

3.13.3 Information on the packaging

The type of enzyme contained in the product must be stated on the packaging.

The packaging must also contain the following or comparable instructions:

- Clean at the lowest possible temperature.
- Only clean dishes with a completely full machine and not to add more detergent to the machine than recommended.
- Information on obtaining a dosage aid (if relevant).

Compliance verification

The applicant shall declare compliance with the requirement in Annex 1 and submit a product label to RAL gGmbH.

3.13.4 Safety Instructions

End products must carry the following safety advice (or an equivalent text) in either text form or as a pictogram: "Keep away from children!"

Compliance verification

The applicant shall declare compliance with the requirement in Annex 1 and submit a product label to RAL gGmbH.

4 Overview of possible future requirements

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

- The exclusive use of high-quality certification systems for palm (kernel) oil derivatives
- The inclusion of an obligatory proportion of carbon from renewable raw materials in the surfactant system.
- Inclusion of other renewable raw materials in the requirements for sustainable cultivation
- The general biodegradability of all substances
- The inclusion of a maximum total phosphorous content in future.
- Other requirements for the use of recycled materials in the packaging and associated design requirements
- Testing other prohibitions for the labelling of the end product in accordance with the CLP Regulation (Regulation (EC) No. 1272/2008/EC)

5 Applicants and parties involved

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

5.1 Parties involved in the award process are:

- RAL gGmbH to award the Blue Angel ecolabel,
- the federal state being home to the applicant's production site,

- Umweltbundesamt, (Federal Environmental Agency) which after the signing of the contract receives all data and documents submitted in application for the Blue Angel in order to be able to further develop the Basic Award Criteria.

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

6 Use of the Environmental Label

6.1 The terms governing the use of the Environmental Label illustrated on the first page of these Basic Award Criteria by the applicant are stipulated by a Contract on the Use of the Environmental Label to be concluded with RAL gGmbH.

6.2 Within the scope of such contract, the applicant undertakes to comply with the requirements under Paragraph 3 while using the environmental label. Significant changes shall be submitted to RAL gGmbH. In these cases, it is possible that the applicant will be requested to resubmit the compliance verifications.

6.3 Contracts on the Use of the Environmental Label are concluded to fix the terms for the certification of products under Paragraph 2. Such contracts shall run until 31 December 2018. They shall be extended by periods of one year each, unless terminated in writing by 31 March 2018 or 31 March of the respective year of extension. After the expiry of the contract, the Environmental Label may neither be used for labelling nor for advertising purposes. This regulation shall not affect products being still in the market.

6.4 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 organizations.

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

- Applicant (manufacturer)
- Brand/trade name
- Distributor (label user), i.e. the marketing organization under Paragraph 5.4.

CONTRACT

No.

on the Award of the Environmental Label

RAL gGmbH as the label-awarding agency and the firm of

(Applicant/Distributor)

as the applicant conclude the following

Contract on the Use of the Environmental Label:

S P E C I M E N

1. Under the following conditions the applicant shall be entitled to use the Environmental Label for the labelling of the product / product group / project:

Dishwasher detergents for

"(Brand/Trade Name)"

This shall not include the right to use the Environmental Label as part of a brand. Unless otherwise agreed, the Environmental Label shall only be used in the above given shape and colour. The entire inner surrounding text shall always be identical as regards font size, form, thickness and colour and it shall be easy to read.

2. The Environmental Label according to Paragraph 1 may only be used for the above-mentioned product / product group / project.
3. If the Environmental Label is used for advertising purposes or other applicant activities, the applicant shall make sure that it is exclusively used in connection with the above-named product / product group / project for which the use of the Environmental Label has been granted and settled under this contract. The applicant shall be solely responsible for the way the label is used, above all, in advertising.
4. During the entire period of label use, the product / product group / project to be labelled shall comply with all requirements and conditions for the use of the label as specified in the "Basic Criteria for Award of the Environmental Label RAL-UZ 201", as amended. This shall also apply to the reproduction of the Environmental Label (including surrounding text). Claims for damages against RAL gGmbH, especially on the grounds of third party objections to applicant's use of the label and the accompanying advertising shall be ruled out.
5. If the "Basic Criteria for Award of the Environmental Label" provide for checks by third parties, the applicant shall bear the costs accruing in connection therewith.
6. Should the applicant himself or third parties find out that the applicant does not comply with the conditions as stipulated in Paragraphs 2-5, the applicant shall be liable to inform RAL gGmbH and stop the use of the

Environmental Label until the conditions are complied with again. Should the applicant be incapable of restoring the state required for the use of the label immediately or should the applicant seriously offend against this contract, RAL gGmbH may, if necessary, withdraw the Environmental Label and prohibit the applicant from using the label any longer. Claims for damages against RAL gGmbH because of the withdrawal of the label shall be ruled out.

7. The Contract on the Use of the Environmental Label may be terminated for good reason.

Examples of good reasons are:

- unpaid contributions
- substantiated risk of injury and death.

In such case, the applicant's continued use of the Environmental Label shall be prohibited. The applicant shall not be entitled to bring a claim for damages against RAL gGmbH (see above: Paragraph 6, Sentence 3).

8. The applicant undertakes to pay RAL gGmbH an amount according to the "Entgeltordnung für das Umweltzeichen" (Schedule of Fees for the Environmental Label), as amended, for the period of use.
9. According to the "Basic Criteria for Award of the Environmental Label RAL-UZ 201" this contract will run until 31 December 2018. They shall be extended by periods of one year each, unless terminated in writing by 31 March 2018 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.
10. Products / projects marked with the Environmental Label and the advertising for these products / projects may reach the consumer only when naming the company of the

(Applicant/Distributor)

Sankt Augustin, this ... day of20..

Location, Date

RAL gGmbH
Management

(Signature of authorized person
and company stamp)