

CERALUTION ES

Version: 2.03

Revision Date 07.01.2016

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Trade name	CERALUTION ES
INCI	CETEARETH-25,Disodium Ethylene Dicocamide PEG-15 Disulfate

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use	Industrial use raw material for cosmetic agents emulsifying agent
Uses advised against	

1.3 Details of the supplier of the safety data sheet

Company	SASOL Germany GmbH Anckelmannsplatz 1 20537 Hamburg Telephone: +49 40 63684-1000 Telefax: +49 40 63684-3700
Information (Product safety):	Telephone: + 49 (0) 23 65 - 49 47 05 Telefax: + 49 (0) 23 65 - 49 92 40
E-mail address	msds-info.germany@de.sasol.com

1.4 Emergency telephone number

Emergency telephone number	+ 49 (0) 23 65 - 49 22 32
-----------------------------------	---------------------------

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture**Classification (REGULATION (EC) No 1272/2008)**

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.2 Label elements

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.3 Other hazards

Forms slippery/greasy layers with water.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

This product is a mixture in the meaning of regulation (EC) 1907/2006.

CERALUTION ES

Version: 2.03

Revision Date 07.01.2016

CHEMICAL CHARACTERIZATION**Alcohols, C16-18, ethoxylated (≥ 2.5 EO)**EC-No.:
REACH No.: Not relevant (polymer)

Index-No.:

component type: Active ingredient

CAS-No.: 68439-49-6

C12/C14-Fatty acid-ethylendiamidethersulfate, sodium saltEC-No.:
REACH No.: Not relevant (polymer)

Index-No.:

component type: Active ingredient

CAS-No.: 519050-73-8

COMPONENTS TO BE NAMED IN ACCORDANCE WITH REGULATION (EC) 1907/2006 AS WELL AS OTHER HAZARDOUS INGREDIENTS AND CONTAINED SUBSTANCES WITH WORK PLACE LIMIT VALUES

No hazardous ingredients

SECTION 4: FIRST AID MEASURES**4.1 Description of first aid measures**

General advice	No hazards which require special first aid measures.
If inhaled	Remove from exposure, lie down. If breathing is irregular or stopped, administer artificial respiration. Monitor breathing, give oxygen if necessary. Consult a physician.
In case of skin contact	Wash off with plenty of water.
In case of eye contact	Rinse with plenty of water.
If swallowed	Consult a physician. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

Most important symptoms and effects, both acute and delayed	Symptoms: No information available. Risks: No information available.
--------------------------------------------------------------------	-------------------------------------------------------------------------

4.3 Indication of any immediate medical attention and special treatment needed

Indication of any immediate medical attention and special treatment needed	Treatment: No information available.
-----------------------------------------------------------------------------------	--------------------------------------

SECTION 5: FIREFIGHTING MEASURES**5.1 Extinguishing media**

Suitable extinguishing media	Water spray, Dry powder, Foam, Carbon dioxide (CO ₂)
-------------------------------------	------------------------------------------------------------------

5.2 Special hazards arising from the substance or mixture

CERALUTION ES

Version: 2.03

Revision Date 07.01.2016

Specific hazards during firefighting

Dangerous gases or fumes may occur in case of fire.

5.3 Advice for firefighters
Special protective equipment for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

Further information

Standard procedure for chemical fires.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Personal precautions

Use personal protective equipment.

Special precautions

Danger of slipping after spill or leakage.

6.2 Environmental precautions
Environmental precautions

No special environmental precautions required.

6.3 Methods and materials for containment and cleaning up
Methods for cleaning up

Sweep up or vacuum up spillage and collect in suitable container for disposal. Molten form Allow to solidify, use mechanical handling equipment.

6.4 Reference to other sections

For personal protection see section 8.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling
Advice on protection against fire and explosion

Normal measures for preventive fire protection.

7.2 Conditions for safe storage, including any incompatibilities
Requirements for storage areas and containers

No special storage conditions required.

Storage class (TRGS 510)

11: Combustible Solids

Other data

Stable under normal conditions.

7.3 Specific end use(s)
Specific use(s)

This information is not available.

CERALUTION ES

Version: 2.03

Revision Date 07.01.2016

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

COMPONENTS WITH WORKPLACE CONTROL PARAMETERS

National occupational exposure limits

No data available

EUROPEAN OCCUPATIONAL EXPOSURE LIMITS

No data available

8.2 Exposure controls

PERSONAL PROTECTIVE EQUIPMENT

Respiratory protection	No personal respiratory protective equipment normally required. In inadequately ventilated areas, where workplace limits are exceeded, where unpleasant odours exist or where dust, fibres and smoke occur, use self-contained breathing apparatus or breathing apparatus with a type P2 or P3 filter, in compliance with EN 143.
Hand protection	<p>The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other., Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time., Be aware that in daily use the durability of a chemical resistant protective glove can be notably shorter than the break through time measured according to EN 374, due to the numerous outside influences (e.g. temperature).</p> <p>gloves suitable for permanent contact: Material: butyl-rubber Break through time: >= 480 min Layer thickness: >= 0,7 mm</p> <p>gloves suitable for splash protection: Material: Nitrile rubber/nitrile latex Break through time: >= 30 min Layer thickness: >= 0,4 mm</p>
Eye protection	Safety glasses
Skin and body protection	Wear suitable protective equipment.
Hygiene measures	Handle in accordance with good industrial hygiene and safety practice.
Protective measures	No special protective equipment required.

ENVIRONMENTAL EXPOSURE CONTROLS

General advice	No special environmental precautions required.
-----------------------	------------------------------------------------

CERALUTION ES

Version: 2.03

Revision Date 07.01.2016

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state	solid; 20 °C; 1.013 hPa
Form	solid
Colour	light yellow
Odour	neutral
Odour Threshold	No valid method available
pH	7,0 - 9,0; 1 % active substance; DIN EN 1262
Softening point	38,6 °C
Boiling point/boiling range	Not applicable
Flash Point	> 90 °C; DIN ISO 1592
Evaporation rate	Not relevant / not applicable Justification: Solid
Flammability (solid, gas)	No data available
Lower explosion limit	Not applicable Justification: Solid
Upper explosion limit	Not applicable Justification: Solid
Vapour pressure	< 0,1 hPa; 20 °C
Relative vapour density	Not relevant / not applicable, Justification: Solid
Density	1,05 g/cm ³ ; 50 °C; DIN 51757
Water solubility	completely miscible
Partition coefficient: n-octanol/water	not applicable (mixture)
Ignition temperature	Not relevant, solid with a melting point < 160°C
Auto-ignition temperature	not auto-flammable
Viscosity, dynamic	ca. 400 mPas; 50 °C; ISO 6388
Explosive properties	Constituents do not contain chemical groups associated with explosivity.
Oxidizing properties	not expected based on structure and functional groups

9.2 Other data

None known.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

Note Stable at normal ambient temperature and pressure.

10.2 Chemical stability

Note No decomposition if stored and applied as directed.

CERALUTION ES

Version: 2.03

Revision Date 07.01.2016

10.3 Possibility of hazardous reactions

Hazardous reactions Hazardous decomposition products formed under fire conditions.

10.4 Conditions to avoid

Conditions to avoid Direct heating, dirt, chemical contamination, sunlight, UV or ionising radiation.

10.5 Incompatible materials to avoid

Materials to avoid None known.;

10.6 Hazardous decomposition products

Hazardous decomposition products No decomposition if used as directed.

Thermal decomposition No decomposition if used as directed.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity Alcohols, C16-18, ethoxylated (≥ 2.5 EO):
LD50 Rat: > 2.000 mg/kg
Category approach
own test results/literature values
Based on available data, the classification criteria are not met.

C12/C14-Fatty acid-ethylendiamidethersulfate, sodium salt:
LD50 Rat: > 2.000 mg/kg; OECD Test Guideline 401
Based on available data, the classification criteria are not met.

Acute inhalation toxicity Alcohols, C16-18, ethoxylated (≥ 2.5 EO):
No data available

C12/C14-Fatty acid-ethylendiamidethersulfate, sodium salt:
No data available

Acute dermal toxicity Alcohols, C16-18, ethoxylated (≥ 2.5 EO):
LD50 Rabbit: > 2.000 mg/kg;
Category approach
(literature value)
Based on available data, the classification criteria are not met.

C12/C14-Fatty acid-ethylendiamidethersulfate, sodium salt:
LD50 Rabbit: > 2.000 mg/kg; OECD Test Guideline 402
Based on available data, the classification criteria are not met.

Skin corrosion/irritation

Skin irritation Alcohols, C16-18, ethoxylated (≥ 2.5 EO):
Rabbit: not irritating
Category approach
own test results/literature values
Based on available data, the classification criteria are not met.

C12/C14-Fatty acid-ethylendiamidethersulfate, sodium salt:
Rabbit: slightly irritating; OECD Test Guideline 404
Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation

CERALUTION ES

Version: 2.03

Revision Date 07.01.2016

Eye irritation

Alcohols, C16-18, ethoxylated (≥ 2.5 EO):
 Rabbit: not irritating
 own test results/literature values
 Category approach
 Based on available data, the classification criteria are not met.

C12/C14-Fatty acid-ethylendiamidethersulfate, sodium salt:
 Rabbit: slightly irritating; OECD Test Guideline 405
 Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation**Sensitisation**

Alcohols, C16-18, ethoxylated (≥ 2.5 EO):
 Maximisation Test (GPMT) Guinea pig: not sensitizing
 Category approach
 (literature value)
 Based on available data, the classification criteria are not met.

C12/C14-Fatty acid-ethylendiamidethersulfate, sodium salt:
 Buehler Test Guinea pig: not sensitizing; OECD Test Guideline 406
 Based on available data, the classification criteria are not met.

Germ cell mutagenicity**Genotoxicity in vitro**

Alcohols, C16-18, ethoxylated (≥ 2.5 EO):
 In vitro tests did not show mutagenic effects
 Category approach
 own test results/literature values

C12/C14-Fatty acid-ethylendiamidethersulfate, sodium salt:
 Ames test; Salmonella typhimurium; with and without metabolic activation: not mutagenic; OECD Test Guideline 471

Genotoxicity in vivo

Alcohols, C16-18, ethoxylated (≥ 2.5 EO):
 In vivo tests did not show mutagenic effects
 Category approach
 (literature value)

C12/C14-Fatty acid-ethylendiamidethersulfate, sodium salt:
 No data available

Remarks

Alcohols, C16-18, ethoxylated (≥ 2.5 EO):
 Based on available data, the classification criteria are not met.

C12/C14-Fatty acid-ethylendiamidethersulfate, sodium salt:
 Based on available data, the classification criteria are not met.

Carcinogenicity**Carcinogenicity**

Alcohols, C16-18, ethoxylated (≥ 2.5 EO):
 The substance has been shown to be not genotoxic, therefore it is not expected to have a carcinogenic potential.
 Category approach
 (literature value)

C12/C14-Fatty acid-ethylendiamidethersulfate, sodium salt:
 This information is not available.

Remarks

Alcohols, C16-18, ethoxylated (≥ 2.5 EO):
 Based on available data, the classification criteria are not met.

Reproductive toxicity**Reproductive toxicity**

Alcohols, C16-18, ethoxylated (≥ 2.5 EO):
 Two-generation reproductive toxicity: Rat
 NOAEL ((parents)): > 250 mg/kg (based on body weight and day)
 NOAEL (F1): > 250 mg/kg (based on body weight and day)
 NOAEL (F2): > 250 mg/kg (based on body weight and day)
 Category approach
 (literature value)

CERALUTION ES

Version: 2.03

Revision Date 07.01.2016

Remarks	C12/C14-Fatty acid-ethylendiamidethersulfate, sodium salt: This information is not available.
Reproductive toxicity	Alcohols, C16-18, ethoxylated (≥ 2.5 EO): Based on available data, the classification criteria are not met.
Teratogenicity	Alcohols, C16-18, ethoxylated (≥ 2.5 EO): Rat; Oral NOAEL: > 50 mg/kg (based on body weight and day) NOAEL (pregnant female): 50 mg/kg (based on body weight and day); Two-generation reproductive toxicity Category approach (literature value) Alcohols, C16-18, ethoxylated (≥ 2.5 EO): Rat; Dermal NOAEL: > 250 mg/kg (based on body weight and day) NOAEL (pregnant female): 250 mg/kg (based on body weight and day); Two-generation reproductive toxicity Category approach (literature value)
Remarks	C12/C14-Fatty acid-ethylendiamidethersulfate, sodium salt: This information is not available.
Teratogenicity	Alcohols, C16-18, ethoxylated (≥ 2.5 EO): Based on available data, the classification criteria are not met.
STOT - single exposure	
Remarks	Alcohols, C16-18, ethoxylated (≥ 2.5 EO): The substance or mixture is not classified as specific target organ toxicant, single exposure. C12/C14-Fatty acid-ethylendiamidethersulfate, sodium salt: The substance or mixture is not classified as specific target organ toxicant, single exposure.
STOT - repeated exposure	
Remarks	Alcohols, C16-18, ethoxylated (≥ 2.5 EO): The substance or mixture is not classified as specific target organ toxicant, repeated exposure.
Repeated dose toxicity	C12/C14-Fatty acid-ethylendiamidethersulfate, sodium salt: This information is not available. Alcohols, C16-18, ethoxylated (≥ 2.5 EO): Rat; Oral; 2 years NOAEL: 50 mg/kg (based on body weight and day) Target Organs: Heart, Liver, Kidney Symptoms: reduced body weight gain, increased relative organ weights Category approach (literature value)
Aspiration hazard	
Aspiration toxicity	Alcohols, C16-18, ethoxylated (≥ 2.5 EO): Not applicable C12/C14-Fatty acid-ethylendiamidethersulfate, sodium salt: Not applicable
Toxicological information	Alcohols, C16-18, ethoxylated (≥ 2.5 EO): Toxicokinetics Category approach The substance is expected to be rapidly absorbed and excreted.

CERALUTION ES

Version: 2.03

Revision Date 07.01.2016

(literature value)

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish	Alcohols, C16-18, ethoxylated (≥ 2.5 EO): LC50 (96 h) Cyprinus carpio (Carp): > 1 mg/l ; flow-through test; OECD Test Guideline 203 own test results/literature values Category approach C12/C14-Fatty acid-ethylendiamidethersulfate, sodium salt: LC50 (96 h) Cyprinus carpio (Carp): > 1 - 10 mg/l ; semi-static test; OECD Test Guideline 203
Toxicity to fish - Chronic toxicity	Alcohols, C16-18, ethoxylated (≥ 2.5 EO): No data available C12/C14-Fatty acid-ethylendiamidethersulfate, sodium salt: No data available
Toxicity to daphnia and other aquatic invertebrates	Alcohols, C16-18, ethoxylated (≥ 2.5 EO): EC50 (48 h) Daphnia magna (Water flea): > 1 mg/l ; static test; OECD Test Guideline 202 own test results/literature values Category approach C12/C14-Fatty acid-ethylendiamidethersulfate, sodium salt: EC50 (48 h) Daphnia magna (Water flea): > 10 - 100 mg/l ; static test; OECD Test Guideline 202
Toxicity to daphnia and other aquatic invertebrates - Chronic toxicity	Alcohols, C16-18, ethoxylated (≥ 2.5 EO): No data available C12/C14-Fatty acid-ethylendiamidethersulfate, sodium salt: No data available
Toxicity to aquatic plants	Alcohols, C16-18, ethoxylated (≥ 2.5 EO): EC50 (72 h) Desmodesmus subspicatus (green algae): > 1 mg/l ; static test; OECD Test Guideline 201; own test results/literature values Category approach C12/C14-Fatty acid-ethylendiamidethersulfate, sodium salt: EC10 (72 h) Desmodesmus subspicatus (green algae): 2,6 mg/l ; Growth rate; static test; OECD Test Guideline 201 C12/C14-Fatty acid-ethylendiamidethersulfate, sodium salt: EC50 (72 h) Desmodesmus subspicatus (green algae): > 10 - 100 mg/l ; Growth rate; static test; OECD Test Guideline 201
Toxicity to bacteria	Alcohols, C16-18, ethoxylated (≥ 2.5 EO): EC50 activated sludge: 140 mg/l; Respiration inhibition Category approach (literature value) C12/C14-Fatty acid-ethylendiamidethersulfate, sodium salt: EC50 (7 h) Pseudomonas putida: > 10.000 mg/l; Cell multiplication inhibition test; DIN 38412
Toxicity to soil dwelling organisms	Alcohols, C16-18, ethoxylated (≥ 2.5 EO): NOEC Eisenia foetida: 220 mg/kg; reproduction rate; artificial soil Category approach (literature value) C12/C14-Fatty acid-ethylendiamidethersulfate, sodium salt: The study is not necessary. Justification:

CERALUTION ES

Version: 2.03

Revision Date 07.01.2016

Toxicity to terrestrial flora	<p>Readily biodegradable</p> <p>Alcohols, C16-18, ethoxylated (≥ 2.5 EO): emergence, growth; NOEC: 10 mg/kg; Lepidium sativum (cress); OECD Test Guideline 208 own test results/literature values Category approach</p> <p>C12/C14-Fatty acid-ethylendiamidethersulfate, sodium salt: The study is not necessary. Justification: Readily biodegradable</p>
Toxicity for other terrestrial non-mammalian fauna	<p>Alcohols, C16-18, ethoxylated (≥ 2.5 EO): No data available</p> <p>C12/C14-Fatty acid-ethylendiamidethersulfate, sodium salt: The study is not necessary. Justification: Readily biodegradable</p>
12.2 Persistence and degradability	
Biodegradability	<p>Alcohols, C16-18, ethoxylated (≥ 2.5 EO): Readily biodegradable; $> 60\%$; 28 d; aerobic; OECD Test Guideline 301B own test results/literature values Category approach</p> <p>C12/C14-Fatty acid-ethylendiamidethersulfate, sodium salt: Readily biodegradable; $> 70\%$; 28 d; aerobic; OECD Test Guideline 301A</p> <p>C12/C14-Fatty acid-ethylendiamidethersulfate, sodium salt: Readily biodegradable; $> 60\%$; 28 d; aerobic; OECD Test Guideline 301B</p>
12.3 Bioaccumulative potential	
Bioaccumulation	<p>Alcohols, C16-18, ethoxylated (≥ 2.5 EO): Bioaccumulation is unlikely. (literature value)</p> <p>C12/C14-Fatty acid-ethylendiamidethersulfate, sodium salt: No data available</p>
12.4 Mobility in soil	
Mobility	<p>Alcohols, C16-18, ethoxylated (≥ 2.5 EO): Adsorption/Soil; Koc: > 5000; QSAR immobile strong adsorption to soil</p> <p>C12/C14-Fatty acid-ethylendiamidethersulfate, sodium salt: No data available</p>
12.5 Results of PBT and vPvB assessment	
Results of PBT assessment	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
Results of PBT assessment	<p>Alcohols, C16-18, ethoxylated (≥ 2.5 EO): Based on available data, the classification criteria are not met.</p> <p>C12/C14-Fatty acid-ethylendiamidethersulfate, sodium salt: Based on available data, the classification criteria are not met.</p>
12.6 Other adverse effects	
General advice	<p>Alcohols, C16-18, ethoxylated (≥ 2.5 EO): None known.</p> <p>C12/C14-Fatty acid-ethylendiamidethersulfate, sodium salt:</p>

CERALUTION ES

Version: 2.03

Revision Date 07.01.2016

None known.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product	Can be incinerated, when in compliance with local regulations.
waste code of the European Union: EWC	A waste code in accordance with the European Waste Catalogue (EWC) may not be assigned to this product since it admits of a classification only when the consumer uses it for some purpose. The waste code must be determined in agreement with the regional waste disposal authority or company.

SECTION 14: TRANSPORT INFORMATION

14.1 UN number

ADR	Not dangerous goods
RID	Not dangerous goods
ADN	Not dangerous goods
IMDG	Not dangerous goods
ICAO/IATA	Not dangerous goods

14.2 Proper shipping name

ADR	Not dangerous goods
RID	Not dangerous goods
ADN	Not dangerous goods
IMDG	Not dangerous goods
ICAO/IATA	Not dangerous goods

14.3 Transport hazard class

ADR	Not dangerous goods
RID	Not dangerous goods
ADN	Not dangerous goods
IMDG	Not dangerous goods
ICAO/IATA	Not dangerous goods

14.4 Packing group

ADR	Not dangerous goods
RID	Not dangerous goods
ADN	Not dangerous goods
IMDG	Not dangerous goods
ICAO/IATA	Not dangerous goods

14.5 Environmental hazards

ADR	Environmentally hazardous	no
RID	Environmentally hazardous	no

CERALUTION ES

Version: 2.03

Revision Date 07.01.2016

ADN	Environmentally hazardous	no
IMDG	Marine pollutant	no
ICAO/IATA	Environmentally hazardous	no

14.6 Special precautions for user

Not classified as dangerous in the meaning of transport regulations.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Remarks No information available.

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

NATIONAL/OTHER REGULATIONS

Legislation on the control of major-accident hazards involving dangerous substances	Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. list entry in the directive:: Not applicable
--------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

NOTIFICATION STATUS

US. Toxic Substances Control Act	TSCA	n (Negative listing)
Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL)	DSL	n (Negative listing)
Australia. Industrial Chemical (Notification and Assessment) Act	AICS	n (Negative listing)
New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand	NZIOC	n (Negative listing)
Japan. Kashin-Hou Law List	ENCS (JP)	n (Negative listing)
Japan. Industrial Safety & Health Law (ISHL) List	ISHL (JP)	n (Negative listing)
Korea. Existing Chemicals Inventory (KECI)	KECI (KR)	n (Negative listing)
Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act	PICCS (PH)	y (positive listing)
China. Inventory of Existing Chemical Substances	INV (CN)	y (positive listing)
Switzerland. Consolidated Inventory	CH INV	y (positive listing)

Please note: the names and CAS numbers which are used for this product in the stated inventories may deviate from the information which is listed in chapter 3.

15.2 Chemical Safety Assessment

A Chemical Safety Assessment is not required for this substance.

SECTION 16: OTHER INFORMATION

CERALUTION ES

Version: 2.03

Revision Date 07.01.2016

Safety datasheet sections which have been updated:

- 9. Physical and chemical properties
- 11. Toxicological information
- 12. Ecological information
- 15. Regulatory information

Further information:

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

This safety datasheet only contains information relating to safety and does not replace any product information or product specification.

Key or legend to abbreviations and acronyms used in the safety data sheet

ADN	Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure
ADR	Accord européen relatif au transport international des marchandises Dangereuses par Route
AICS	Australian Inventory of Chemical Substances
ANSI	American National Standards Institute
ASTM	American Society of Testing and Materials (US)
BCF	Bioconcentration factor
CLP	Regulation on Classification, Labelling and Packaging of Substances and Mixtures
DIN	Deutsches Institut für Normung
DNEL	Derived No-Effect Level
DSL	Domestic Substances List
EC...	Effect concentration ... %
ENCS	Existing Notified Chemical Substances (Japan)
EWC	European Waste Catalogue
IATA	International Air Transport Association
IBC	Intermediate Bulk Container
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
ISHL	Industrial Safety and Health Law (Japan)
ISO	International Organization for Standardization
IUAPC	International Union of Pure and Applied Chemistry
KECI	Korea Existing Chemicals Inventory
LC...	Lethal Concentration, ...%
LD...	Lethal Dose, ...%
MARPOL	International Convention for the Prevention of Pollution From Ships
NDSL	Non-Domestic Substances List
NOAEL	no observable adverse effect level
NOEL/NOEC	No Observed-effect level/concentration
NZIoC	New Zealand Inventory of Chemicals
OECD	Organisation for Economic Co-operation and Development
PBT	persistent, bioaccumulative, toxic
PICCS	Philippine Inventory of Chemicals and Chemical Substances
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport international ferroviaire de marchandises dangereuses
TG	Test Guideline
TRGS	Technische Regeln für Gefahrstoffe
TSCA	Toxic Substances Control Act
vPvB	very persistent, very bioaccumulative
WGK	Wassergefährdungsklasse