



Safety data sheet

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BASF 3D Printing safety data sheet. This document has been drafted following generic rules for safety data sheets. It does not replace the safety data sheet provided according to Regulation (EC) No 1907/2006.

Date / Revised: 20.02.2024
Date / Previous version: 12.02.2024
Product: **Ultracur3D® DM 4505 N**

Version: 2.0
Previous version: 1.0

(ID no. 30847276/SDS_GEN_EU/EN)

Date of print 21.02.2024

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Ultracur3D® DM 4505 N

UFI: GUS1-4HKA-K00G-DHXC

The substance/mixture contains nanoforms.

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

Recommended use: 3D Printing

1.3. Details of the supplier of the safety data sheet

Company:
BASF 3D Printing Solutions GmbH
Speyerer Str. 4
69115 Heidelberg, Germany

Telephone: +49 6221 67417 900
E-mail address: sales@basf-3dps.com

1.4. Emergency telephone number

International emergency number:
Telephone: +49 180 2273-112

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SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

For the classification of the mixture the following methods have been applied: extrapolation on the concentration levels of the hazardous substances, on basis of test results and after evaluation of experts. The methodologies used are mentioned at the respective test results.

According to Regulation (EC) No 1272/2008 [CLP]

Skin Irrit. 2	H315 Causes skin irritation.
Eye Dam. 1	H318 Causes serious eye damage.
Skin Sens. 1	H317 May cause an allergic skin reaction.
STOT RE 2	H373 May cause damage to organs through prolonged or repeated exposure.
Aquatic Chronic 2	H411 Toxic to aquatic life with long lasting effects.

For the classifications not written out in full in this section the full text can be found in section 16.

2.2. Label elements

According to Regulation (EC) No 1272/2008 [CLP]

Pictogram:



Signal Word:

Danger

Hazard Statement:

H318	Causes serious eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.

Precautionary Statements (Prevention):

P280	Wear protective gloves and eye protection or face protection.
P273	Avoid release to the environment.
P260	Do not breathe dust/gas/mist/vapours.

Precautionary Statements (Response):

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or physician.

Precautionary Statements (Disposal):

P501	Dispose of contents and container to hazardous or special waste collection point.
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Hazard determining component(s) for labelling: 2-Propen-1-one, 1-(4-morpholinyl)-, 2-Propenoic acid, reaction products with dipentaerythritol, (5-Ethyl-1,3-dioxan-5-yl)methyl acrylate, 7,7,9(or 7,9,9)-Trimethyl-4,13-dioxo-3,14-dioxo-5,12-diazahehexadecane-1,16-diyl bismethacrylate

2.3. Other hazards

According to Regulation (EC) No 1272/2008 [CLP]

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture. Product does not contain a substance above legal limits included in the list established in accordance with Article 59(1) of Regulation (EC) No 1907/2006 for having endocrine disrupting properties or is identified to have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

SECTION 3: Composition/Information on Ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Chemical nature

Blend based on: acrylic resin, additives

Regulatory relevant ingredients

| (5-Ethyl-1,3-dioxan-5-yl)methyl acrylate

Content (W/W): $\geq 7\%$ - $< 50\%$	Skin Corr./Irrit. 2
CAS Number: 66492-51-1	Skin Sens. 1B
EC-Number: 266-380-7	Aquatic Chronic 2
REACH registration number: 01-2119976303-36	H315, H317, H411

| 2-Propenoic acid, reaction products with dipentaerythritol

Content (W/W): $> 0\%$ - $< 50\%$	Eye Dam./Irrit. 2
CAS Number: 1384855-91-7	Skin Sens. 1A
REACH registration number: 01-2119980666-22	Aquatic Chronic 3
	H319, H317, H412

| 7,7,9(or 7,9,9)-Trimethyl-4,13-dioxo-3,14-dioxo-5,12-diazahehexadecane-1,16-diyl bismethacrylate

Content (W/W): $\geq 10\%$ - $< 50\%$	Skin Sens. 1B
CAS Number: 72869-86-4	Aquatic Chronic 2
EC-Number: 276-957-5	H317, H411

| 2-Propen-1-one, 1-(4-morpholinyl)-

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Content (W/W): $\geq 10\%$ - $< 20\%$	Acute Tox. 4 (oral)
CAS Number: 5117-12-4	Eye Dam./Irrit. 1
EC-Number: 418-140-1	Skin Sens. 1
INDEX-Number: 613-222-00-3	STOT RE 2
	H318, H302, H317, H373
phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	
Content (W/W): $> 0\%$ - $< 3\%$	Skin Sens. 1
CAS Number: 162881-26-7	Aquatic Chronic 4
EC-Number: 423-340-5	H317, H413
INDEX-Number: 015-189-00-5	<u>Differing classification according to current knowledge and the criteria given in Annex I of Regulation (EC) No. 1272/2008</u>
	Skin Sens. 1A
	Aquatic Chronic 4
	H317, H413

For the classifications not written out in full in this section, including the hazard classes and the hazard statements, the full text is listed in section 16.

SECTION 4: First-Aid Measures

4.1. Description of first aid measures

Remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air, seek medical attention. Immediately administer a corticosteroid from a controlled/metered dose inhaler.

On skin contact:

Immediately wash thoroughly with plenty of water, apply sterile dressings, consult a skin specialist.

On contact with eyes:

Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

On ingestion:

Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11., (Further) symptoms and / or effects are not known so far

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Hazards: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11. (Further) symptoms and / or effects are not known so far

4.3. Indication of any immediate medical attention and special treatment needed

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing media

Suitable extinguishing media:
water spray, dry powder, foam

Unsuitable extinguishing media for safety reasons:
water jet

5.2. Special hazards arising from the substance or mixture

Endangering substances: harmful vapours, carbon oxides, nitrogen oxides

Advice: Evolution of fumes/fog. The substances/groups of substances mentioned can be released in case of fire.

5.3. Advice for fire-fighters

Special protective equipment:
Wear self-contained breathing apparatus and chemical-protective clothing.

Further information:

If exposed to fire, keep containers cool by spraying with water. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

SECTION 6: Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

Do not breathe vapour/spray. Ensure adequate ventilation. Avoid contact with the skin, eyes and clothing. Use personal protective clothing. Information regarding personal protective measures, see section 8.

6.2. Environmental precautions

Do not discharge into drains/surface waters/groundwater. Contain contaminated water/firefighting water.

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6.3. Methods and material for containment and cleaning up

For large amounts: Dike spillage. Pump off product.
For residues: Pick up with inert absorbent material (e.g. sand, earth etc.).
Dispose of absorbed material in accordance with regulations.

6.4. Reference to other sections

Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

SECTION 7: Handling and Storage

7.1. Precautions for safe handling

Avoid aerosol formation. Do not inhale vapours / aerosols. Avoid contact with the skin, eyes and clothing. Wear suitable protective clothing and gloves. Provide good ventilation of working area (local exhaust ventilation if necessary).

Protection against fire and explosion:
Heated containers should be cooled to prevent polymerization. Take precautionary measures against static discharges.

7.2. Conditions for safe storage, including any incompatibilities

Segregate from foods and animal feeds.
Further information on storage conditions: Containers should be stored tightly sealed in a dry place. Keep container dry because product takes up the humidity of air. Protect against heat. Protect from the effects of light. The stabilizer is only effective in the presence of oxygen. Ensure adequate inhibitor and dissolved oxygen level.

Protect from temperatures below: 0 °C
Changes in the properties of the product may occur if substance/product is stored below indicated temperature for extended periods of time.
Protect from temperatures above: 40 °C
Changes in the properties of the product may occur if substance/product is stored above indicated temperature for extended periods of time.

7.3. Specific end use(s)

For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

SECTION 8: Exposure Controls/Personal Protection

8.1. Control parameters

Components with occupational exposure limits

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112926-00-8: Silica gel, precipitated, crystalline free

Components with PNEC

66492-51-1: (5-Ethyl-1,3-dioxan-5-yl)methyl acrylate

freshwater: 0.004 mg/l

marine water: 0.0004 mg/l

intermittent release: 0.04 mg/l

STP: 30 mg/l

sediment (freshwater): 0.019 mg/kg

sediment (marine water): 0.0019 mg/kg

soil: 0.0014 mg/kg

oral (secondary poisoning):

No PNEC oral derived, as accumulation in organisms is not to be expected.

8.2. Exposure controls

Appropriate engineering controls

Ensure adequate ventilation.

Personal protective equipment

Respiratory protection:

Suitable respiratory protection for higher concentrations or long-term effect: Gas filter for gases/vapours of organic compounds (boiling point >65 °C, e. g. EN 14387 Type A)

Hand protection:

Chemical resistant protective gloves (EN ISO 374-1)

Suitable materials for short-term contact (recommended: At least protective index 2, corresponding > 30 minutes of permeation time according to EN ISO 374-1)

butyl rubber (butyl) - 0.7 mm coating thickness

nitrile rubber (NBR) - 0.4 mm coating thickness

Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing.

Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:

Tightly fitting safety goggles (splash goggles) (e.g. EN 166)

General safety and hygiene measures

Avoid contact with the skin, eyes and clothing. Handle in accordance with good industrial hygiene and safety practice. Store work clothing separately. Hands and/or face should be washed before breaks and at the end of the shift. When using, do not eat, drink or smoke.

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SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

State of matter:	liquid	
Form:	resin	
Colour:	beige	
Odour:	acrylic-like	
Odour threshold:	Not determined due to potential health hazard by inhalation.	
Freezing point:	not determined	
Boiling point:	> 100 °C	
Flammability:	not highly flammable	(derived from flash - and boiling point)
Lower explosion limit:	not determined	
Upper explosion limit:	not determined	
Flash point:	> 100 °C	
Auto-ignition temperature:	not determined	
Thermal decomposition:	> 180 °C	
pH value:	insoluble	
Viscosity, kinematic:	not determined	
Solubility in water:	sparingly soluble	
Solubility (qualitative) solvent(s):	organic solvents	
	soluble	
Partitioning coefficient n-octanol/water (log Kow):	not applicable for mixtures	
Vapour pressure:	not determined	
Density:	1.1 g/cm ³	
	(20 °C)	
Relative vapour density (air):	not determined	

Particle characteristics

Particle size distribution: The substance / product is marketed or used in a non solid or granular form. -

9.2. Other information

Information with regard to physical hazard classes

Explosives

Explosion hazard: not explosive

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Oxidizing properties

Fire promoting properties: not fire-propagating

Self-heating substances and mixtures

Self heating ability: not applicable, the product is a liquid

Corrosion to metals

Corrosive effects to metal are not anticipated.

Other safety characteristics

SAPT-Temperature: > 75 °C

Evaporation rate:
not determined

SECTION 10: Stability and Reactivity

10.1. Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals: Corrosive effects to metal are not anticipated.

10.2. Chemical stability

The product is stable if stored and handled as prescribed/indicated.

10.3. Possibility of hazardous reactions

The product can polymerize if the shelf life or storage temperature are greatly exceeded. Heat develops during polymerization. Reacts with peroxides and other radical components. The product is stabilized against spontaneous polymerization prior to despatch.

10.4. Conditions to avoid

Avoid heat. Avoid UV-light and other radiation with high energy. Avoid direct sunlight. Avoid prolonged storage. Avoid inhibitor loss.

10.5. Incompatible materials

Substances to avoid:
free radical initiators

10.6. Hazardous decomposition products

Hazardous decomposition products:
No hazardous decomposition products if stored and handled as prescribed/indicated.

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SECTION 11: Toxicological Information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Assessment of acute toxicity:

Of low toxicity after single ingestion.

Information on: 2-Propen-1-one, 1-(4-morpholinyl)-

Experimental/calculated data:

LD50 rat (oral): 588 mg/kg (OECD Guideline 401)

Irritation

Assessment of irritating effects:

Skin contact causes irritation. May cause severe damage to the eyes.

Respiratory/Skin sensitization

Assessment of sensitization:

Sensitization after skin contact possible.

Information on: (5-Ethyl-1,3-dioxan-5-yl)methyl acrylate

Assessment of sensitization:

Caused skin sensitization in animal studies.

Information on: 2-Propen-1-one, 1-(4-morpholinyl)-

Assessment of sensitization:

Sensitization after skin contact possible. EU-classification

Information on: 2-Propenoic acid, reaction products with dipentaerythritol

Assessment of sensitization:

Sensitization after skin contact possible.

Information on: 7,7,9(or 7,9,9)-Trimethyl-4,13-dioxo-3,14-dioxo-5,12-diazaheptadecane-1,16-diyl bismethacrylate

Assessment of sensitization:

Sensitization after skin contact possible.

Information on: phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide

Assessment of sensitization:

sensitizing effect in animal tests

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Germ cell mutagenicity

Assessment of mutagenicity:

Based on available data, the classification criteria are not met.

Carcinogenicity

Assessment of carcinogenicity:

Based on available data, the classification criteria are not met.

Reproductive toxicity

Assessment of reproduction toxicity:

Based on available data, the classification criteria are not met.

Developmental toxicity

Assessment of teratogenicity:

Based on available data, the classification criteria are not met.

Specific target organ toxicity (single exposure)

Assessment of STOT single:

Based on available data, the classification criteria are not met.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:

Repeated exposure may affect certain organs.

Information on: 2-Propen-1-one, 1-(4-morpholinyl)-

Assessment of repeated dose toxicity:

Repeated exposure may affect certain organs. EU-classification

Aspiration hazard

No aspiration hazard expected.

Interactive effects

No data available.

11.2. Information on other hazards

Endocrine disrupting properties

Product does not contain a substance above legal limits included in the list established in accordance with Article 59(1) of Regulation (EC) No 1907/2006 for having endocrine disrupting properties or is identified to have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

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Other information

Other relevant toxicity information

The product has been assessed on the basis of the components' available data. To some extent data gaps exist for individual components. According to our present knowledge and experience dangers which are not covered by the current labeling are not to be expected.

SECTION 12: Ecological Information

12.1. Toxicity

Assessment of aquatic toxicity:

Toxic to aquatic life. Toxic to aquatic life with long lasting effects.

Information on: (5-Ethyl-1,3-dioxan-5-yl)methyl acrylate

Assessment of aquatic toxicity:

Acutely toxic for aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Information on: 7,7,9(or 7,9,9)-Trimethyl-4,13-dioxo-3,14-dioxo-5,12-diazaheptadecane-1,16-diyl bismethacrylate

Assessment of aquatic toxicity:

Acutely harmful for aquatic organisms. Toxic to aquatic organisms based on long-term (chronic) toxicity study data. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

12.2. Persistence and degradability

Assessment biodegradation and elimination (H₂O):

The product has not been tested.

Information on: (5-Ethyl-1,3-dioxan-5-yl)methyl acrylate

Assessment biodegradation and elimination (H₂O):

Not readily biodegradable (by OECD criteria).

Information on: 2-Propenoic acid, reaction products with dipentaerythritol

Assessment biodegradation and elimination (H₂O):

Poorly biodegradable. Not readily biodegradable (by OECD criteria).

Information on: 7,7,9(or 7,9,9)-Trimethyl-4,13-dioxo-3,14-dioxo-5,12-diazaheptadecane-1,16-diyl bismethacrylate

Assessment biodegradation and elimination (H₂O):

Not readily biodegradable (by OECD criteria). Moderately/partially biodegradable.

Information on: phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide

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*Assessment biodegradation and elimination (H₂O):
Not readily biodegradable (by OECD criteria). Poorly biodegradable.*

12.3. Bioaccumulative potential

Assessment bioaccumulation potential:
The product has not been tested.

*Information on: 2-Propenoic acid, reaction products with dipentaerythritol
Assessment bioaccumulation potential:
Does not accumulate in organisms.
The product has not been tested. The statement has been derived from the structure of the product.*

*Information on: phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide
Assessment bioaccumulation potential:
Does not significantly accumulate in organisms.*

12.4. Mobility in soil

Assessment transport between environmental compartments:
Volatility: not determined
Adsorption in soil: not determined

*Information on: (5-Ethyl-1,3-dioxan-5-yl)methyl acrylate
Assessment transport between environmental compartments:
Volatility: The substance will not evaporate into the atmosphere from the water surface.
Adsorption in soil: Adsorption to solid soil phase is not expected.*

*Information on: phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide
Assessment transport between environmental compartments:
Volatility: The substance will not evaporate into the atmosphere from the water surface.
Adsorption in soil: Adsorption to solid soil phase is expected.*

12.5. Results of PBT and vPvB assessment

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): The product does not contain a substance fulfilling the PBT (persistent/bioaccumulative/toxic) criteria or the vPvB (very persistent/very bioaccumulative) criteria.

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12.6. Endocrine disrupting properties

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12.7. Other adverse effects

The product does not contain substances that are listed in Regulation (EC) 1005/2009 on substances that deplete the ozone layer.

Additional information

Add. remarks environm. fate & pathway:

Treatment in biological waste water treatment plants has to be performed according to local and administrative regulations.

Other ecotoxicological advice:

The product has been assessed on the basis of the components' available data. To some extent data gaps exist for individual components. According to our present knowledge and experience dangers which are not covered by the current labeling are not to be expected. Do not discharge product into the environment without control.

SECTION 13: Disposal Considerations

13.1. Waste treatment methods

Dispose of in accordance with national, state and local regulations.

Contact specialized companies about recycling.

Contaminated packaging:

Dispose of in accordance with national, state and local regulations.

Contaminated packaging should be emptied as far as possible and disposed of in the same manner as the substance/product.

SECTION 14: Transport Information

Land transport

ADR

UN number or ID number: UN3082

UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S. ((5-ETHYL-1,3-DIOXAN-5-YL)METHYL ACRYLATE)

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STABILIZED

Transport hazard class(es): 9, EHSM
Packing group: III
Environmental hazards: yes
Special precautions for user: None known

RID

UN number or ID number: UN3082
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. ((5-ETHYL-1,3-DIOXAN-5-YL)METHYL ACRYLATE) STABILIZED

Transport hazard class(es): 9, EHSM
Packing group: III
Environmental hazards: yes
Special precautions for user: None known

Inland waterway transport

ADN

UN number or ID number: UN3082
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. ((5-ETHYL-1,3-DIOXAN-5-YL)METHYL ACRYLATE) STABILIZED

Transport hazard class(es): 9, EHSM
Packing group: III
Environmental hazards: yes
Special precautions for user: None known

Transport in inland waterway vessel

Not evaluated

Sea transport

IMDG

UN number or ID number: UN 3082
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. ((5-ETHYL-1,3-DIOXAN-5-YL)METHYL ACRYLATE) STABILIZED

BASF 3D Printing safety data sheet. This document has been drafted following generic rules for safety data sheets. It does not replace the safety data sheet provided according to Regulation (EC) No 1907/2006.

Date / Revised: 20.02.2024
Date / Previous version: 12.02.2024
Product: **Ultracur3D® DM 4505 N**

Version: 2.0
Previous version: 1.0

(ID no. 30847276/SDS_GEN_EU/EN)

Date of print 21.02.2024

Transport hazard class(es): 9, EHSM
Packing group: III
Environmental hazards: yes
Marine pollutant: YES
Special precautions for user: EmS: F-A; S-F

Air transport

IATA/ICAO

UN number or ID number: UN 3082
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. ((5-ETHYL-1,3-DIOXAN-5-YL)METHYL ACRYLATE) STABILIZED

Transport hazard class(es): 9, EHSM
Packing group: III
Environmental hazards: yes
Special precautions for user: None known

14.1. UN number or ID number

See corresponding entries for "UN number or ID number" for the respective regulations in the tables above.

14.2. UN proper shipping name

See corresponding entries for "UN proper shipping name" for the respective regulations in the tables above.

14.3. Transport hazard class(es)

See corresponding entries for "Transport hazard class(es)" for the respective regulations in the tables above.

14.4. Packing group

See corresponding entries for "Packing group" for the respective regulations in the tables above.

14.5. Environmental hazards

See corresponding entries for "Environmental hazards" for the respective regulations in the tables above.

14.6. Special precautions for user

See corresponding entries for "Special precautions for user" for the respective regulations in the tables above.

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14.7. Maritime transport in bulk according to IMO instruments

Maritime transport in bulk is not intended.

Further information

Product may be shipped as non-hazardous in suitable packages containing a net quantity of 5 L or less under the provisions of various regulatory agencies: ADR, RID, ADN: Special Provision 375; IMDG: 2.10.2.7; IATA: A197; TDG: Special Provision 99(2); 49CFR: §171.4 (c) (2) and also the Special Provision 375 in Appendix B which is regulated in China "Regulations Concerning Road Transportation of Dangerous Goods Part 3: Index of dangerous goods name and transportation requirements" (JT/T 617.3)

SECTION 15: Regulatory Information

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

Prohibitions, Restrictions and Authorizations

Annex XVII of Regulation (EC) No 1907/2006: Number on List: 75

Directive 2012/18/EU - Control of Major Accident Hazards involving dangerous substances (EU):

List entry in regulation: E2

Classification applies for standard conditions of temperature and pressure.

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

15.2. Chemical Safety Assessment

For a mixture it is not mandatory to include an exposure scenario in the material safety data sheet.

SECTION 16: Other Information

Any other intended applications should be discussed with the manufacturer.

Full text of the classifications, including the hazard classes and the hazard statements, if mentioned in section 2 or 3:

Skin Irrit.	Skin irritation
Eye Dam.	Serious eye damage
Skin Sens.	Skin sensitization
STOT RE	Specific target organ toxicity — repeated exposure
Aquatic Chronic	Hazardous to the aquatic environment - chronic
Skin Corr./Irrit.	Skin corrosion/irritation
Eye Dam./Irrit.	Serious eye damage/eye irritation
Acute Tox.	Acute toxicity

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H318	Causes serious eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
H319	Causes serious eye irritation.
H412	Harmful to aquatic life with long lasting effects.
H302	Harmful if swallowed.
H413	May cause long lasting harmful effects to aquatic life.

Abbreviations

ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road.
 ADN = The European Agreement concerning the International Carriage of Dangerous Goods by Inland waterways. ATE = Acute Toxicity Estimates. CAO = Cargo Aircraft Only. CAS = Chemical Abstract Service. CLP = Classification, Labelling and Packaging of substances and mixtures. DIN = German national organization for standardization. DNEL = Derived No Effect Level. EC50 = Effective concentration median for 50% of the population. EC = European Community. EN = European Standards. IARC = International Agency for Research on Cancer. IATA = International Air Transport Association. IBC-Code = Intermediate Bulk Container code. IMDG = International Maritime Dangerous Goods Code. ISO = International Organization for Standardization. STEL = Short-Term Exposure Limit. LC50 = Lethal concentration median for 50% of the population. LD50 = Lethal dose median for 50% of the population. TLV = Threshold Limit Value. MARPOL = The International Convention for the Prevention of Pollution from Ships. NEN = Dutch Norm. NOEC = No Observed Effect Concentration. OEL = Occupational Exposure Limit. OECD = Organization for Economic Cooperation and Development. PBT = Persistent, Bioaccumulative and Toxic. PNEC = Predicted No Effect Level. PPM = Parts per million. RID = The European Agreement concerning the International Carriage of Dangerous Goods by Rail. TWA = Time Weight Average. UN-number = UN number at transport. vPvB = very Persistent and very Bioaccumulative.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

Vertical lines in the left hand margin indicate an amendment from the previous version.