SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

ULTRASTAR UV FP-8220 Silver

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

1.1 Product identifier
   Trade name : ULTRASTAR UV FP-8220 Silver
   Product code : 052466U30

1.2 Relevant identified uses of the substance or mixture and uses advised against
   This information is not available.

1.3 Details of the supplier of the safety data sheet
   Company : ECKART GmbH
             Guentersthal 4
             91235 Hartenstein
   Telephone : +499152770
   Telefax : +499152777008
   E-mail address of person responsible for the SDS : msds.eckart@altana.com

1.4 Emergency telephone number
   GBK Gefahrgut Büro GmbH, Ingelheim, Germany:
   From outside US: (001) 352-323-3500
   (First call in English, response in your language is possible)
   US & Canada (toll free) : 1-800-5355-053

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
   Classification (REGULATION (EC) No 1272/2008)
   Skin irritation, Category 2 H315: Causes skin irritation.
   Eye irritation, Category 2 H319: Causes serious eye irritation.
   Skin sensitisation, Category 1 H317: May cause an allergic skin reaction.
   Long-term (chronic) aquatic hazard, Category 3 H412: Harmful to aquatic life with long lasting effects.

2.2 Label elements
   Labelling (REGULATION (EC) No 1272/2008)
Hazard pictograms : ![Warning]

Signal word : Warning

Hazard statements : H315 Causes skin irritation. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H412 Harmful to aquatic life with long lasting effects.


Hazardous components which must be listed on the label:
- hexamethylene diacrylate
- Propyliyenetrimethanol, ethoxylated, esters with acrylic acid
- Epoxy acrylate
- Glycerol, propoxylated, esters with acrylic acid
- Propoxylated neopentyl glycol diacrylate esters
- 2-ethylhexyl acrylate

2.3 Other hazards
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.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

<table>
<thead>
<tr>
<th>Hazardous components</th>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Index-No.</th>
<th>Registration number</th>
<th>Classification</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>hexamethylene diacrylate</td>
<td>13048-33-4</td>
<td>235-921-9</td>
<td>607-109-00-8</td>
<td>REGULATION (EC) No 1272/2008</td>
<td>Skin Irrit. 2; H315 Eye Irrit. 2; H319 Skin Sens. 1A; H317</td>
<td>&gt;= 25 - &lt; 50</td>
</tr>
</tbody>
</table>
SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.

If inhaled : If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.

In case of skin contact : If skin irritation persists, call a physician.
If on skin, rinse well with water.
If on clothes, remove clothes.

In case of eye contact : Immediately flush eye(s) with plenty of water.

For explanation of abbreviations see section 16.
Remove contact lenses.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed:
Keep respiratory tract clear.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.

4.2 Most important symptoms and effects, both acute and delayed
Risks:
- Causes skin irritation.
- May cause an allergic skin reaction.
- Causes serious eye irritation.

4.3 Indication of any immediate medical attention and special treatment needed
This information is not available.

SECTION 5: Firefighting measures

5.1 Extinguishing media
Unsuitable extinguishing media:
High volume water jet

5.2 Special hazards arising from the substance or mixture
Specific hazards during firefighting:
Do not allow run-off from fire fighting to enter drains or water courses.

5.3 Advice for firefighters
Special protective equipment for firefighters:
Wear self-contained breathing apparatus for firefighting if necessary.

Further information:
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Personal precautions:
Use personal protective equipment.

6.2 Environmental precautions
Environmental precautions:
Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up: Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling: Do not breathe vapours/dust. Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Dispose of rinse water in accordance with local and national regulations. Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

Advice on protection against fire and explosion: Normal measures for preventive fire protection.

Hygiene measures: When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers: Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Electrical installations / working materials must comply with the technological safety standards.

Further information on storage stability: No decomposition if stored and applied as directed.

7.3 Specific end use(s)

This information is not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Contains no substances with occupational exposure limit values.
## Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

<table>
<thead>
<tr>
<th>Substance name</th>
<th>End Use</th>
<th>Exposure routes</th>
<th>Potential health effects</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>hexamethylene diacrylate</td>
<td>Workers</td>
<td>Inhalation</td>
<td>long term – systemic effects</td>
<td>24.48 mg/m₃</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Skin contact</td>
<td>long term – systemic effects</td>
<td>2.77 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Ingestion</td>
<td>long term – systemic effects</td>
<td>2.08 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Skin contact</td>
<td>long term – systemic effects</td>
<td>1.66 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Inhalation</td>
<td>long term – systemic effects</td>
<td>7.24 mg/m₃</td>
</tr>
<tr>
<td>Propyldinethrimethanol, ethoxylated, esters with acrylic acid</td>
<td>Workers</td>
<td>Skin contact</td>
<td>long term – systemic effects</td>
<td>0.8 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Inhalation</td>
<td>long term – systemic effects</td>
<td>16.2 mg/m₃</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Skin contact</td>
<td>long term – systemic effects</td>
<td>0.5 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Inhalation</td>
<td>long term – systemic effects</td>
<td>4.9 mg/m₃</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Ingestion</td>
<td>long term – systemic effects</td>
<td>1.4 mg/kg</td>
</tr>
<tr>
<td>Epoxy acrylate</td>
<td>Workers</td>
<td>Skin contact</td>
<td>long term – systemic effects</td>
<td>33 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Inhalation</td>
<td>long term – systemic effects</td>
<td>1.17 mg/m₃</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Inhalation</td>
<td>long term – systemic effects</td>
<td>0.29 mg/m₃</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Skin contact</td>
<td>long term – systemic effects</td>
<td>16.67 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Oral</td>
<td>long term – systemic effects</td>
<td>0.17 mg/kg</td>
</tr>
<tr>
<td>2-hydroxy-2-methylpropiophenone</td>
<td>Workers</td>
<td>Skin contact</td>
<td>long term – systemic effects</td>
<td>1.25 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Inhalation</td>
<td>long term – systemic effects</td>
<td>3.5 mg/m₃</td>
</tr>
<tr>
<td>aluminium powder (stabilised)</td>
<td>Workers</td>
<td>Inhalation</td>
<td>long term – local effects</td>
<td>3.72 mg/m₃</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Oral</td>
<td>long term – systemic effects</td>
<td>3.95 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Inhalation</td>
<td>long-term systemic effects</td>
<td>3.72 mg/m₃</td>
</tr>
<tr>
<td>Glycerol, propoxylated, esters with acrylic acid</td>
<td>Workers</td>
<td>Skin contact</td>
<td>long term – systemic effects</td>
<td>1.92 mg/kg</td>
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<tr>
<td></td>
<td>Workers</td>
<td>Inhalation</td>
<td>long term – systemic effects</td>
<td>16.22 mg/m₃</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Ingestion</td>
<td>long term – systemic effects</td>
<td>1.39 mg/kg</td>
</tr>
</tbody>
</table>
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<table>
<thead>
<tr>
<th>Consumers</th>
<th>Skin contact</th>
<th>long term – systemic effects</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumers</td>
<td>Inhalation</td>
<td>long term – systemic effects</td>
<td>4.87 mg/m³</td>
</tr>
<tr>
<td>Workers</td>
<td>Inhalation</td>
<td>long term – systemic effects</td>
<td>11.75 mg/m³</td>
</tr>
<tr>
<td>Workers</td>
<td>Skin contact</td>
<td>long term – systemic effects</td>
<td>3.33 mg/kg</td>
</tr>
<tr>
<td>Consumers</td>
<td>Inhalation</td>
<td>long term – systemic effects</td>
<td>2.9 mg/m³</td>
</tr>
<tr>
<td>Consumers</td>
<td>Ingestion</td>
<td>long term – systemic effects</td>
<td>1.67 mg/kg</td>
</tr>
<tr>
<td>Consumers</td>
<td>Skin contact</td>
<td>long term – systemic effects</td>
<td>1.67 mg/kg</td>
</tr>
</tbody>
</table>

**Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:**

<table>
<thead>
<tr>
<th>Substance name</th>
<th>Environmental Compartment</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>hexamethylene diacrylate</td>
<td>Soil</td>
<td>0.00397 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Fresh water</td>
<td>0.0015 mg/l</td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>0.00015 mg/l</td>
</tr>
<tr>
<td></td>
<td>STP</td>
<td>2.7 mg/l</td>
</tr>
<tr>
<td>Propyldynetrimethanol, ethoxylated, esters with acrylic acid</td>
<td>Soil</td>
<td>0.00587 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Fresh water</td>
<td>0.00195 mg/l</td>
</tr>
<tr>
<td></td>
<td>Fresh water sediment</td>
<td>0.0082 mg/kg</td>
</tr>
<tr>
<td></td>
<td>STP</td>
<td>10 mg/l</td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>0.000195 mg/l</td>
</tr>
<tr>
<td></td>
<td>Marine sediment</td>
<td>0.00082 mg/kg</td>
</tr>
<tr>
<td>Epoxy acrylate</td>
<td>Fresh water</td>
<td>0.1 mg/l</td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>0.01 mg/l</td>
</tr>
<tr>
<td></td>
<td>Fresh water sediment</td>
<td>35.8 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Marine sediment</td>
<td>3.58 mg/kg</td>
</tr>
<tr>
<td></td>
<td>clarification plant</td>
<td>10 mg/l</td>
</tr>
<tr>
<td></td>
<td>Soil</td>
<td>7.1 mg/kg</td>
</tr>
<tr>
<td>2-hydroxy-2- methylpropiophenone</td>
<td>Soil</td>
<td>0.000674 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Fresh water</td>
<td>0.00195 mg/l</td>
</tr>
<tr>
<td></td>
<td>Fresh water sediment</td>
<td>0.00514 mg/kg</td>
</tr>
<tr>
<td></td>
<td>clarification plant</td>
<td>45 mg/l</td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>0.000195 mg/l</td>
</tr>
<tr>
<td></td>
<td>Marine sediment</td>
<td>0.000514 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Sporadic Release</td>
<td>0.0195 mg/l</td>
</tr>
<tr>
<td>aluminium powder (stabilised)</td>
<td>Fresh water</td>
<td>0.0749 mg/l</td>
</tr>
<tr>
<td></td>
<td>clarification plant</td>
<td>20 mg/l</td>
</tr>
<tr>
<td>Glycerol, propoxylated, esters with acrylic acid</td>
<td>Soil</td>
<td>0.00111 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Fresh water</td>
<td>0.00574 mg/l</td>
</tr>
<tr>
<td></td>
<td>Fresh water sediment</td>
<td>0.01697 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>0.000574 mg/l</td>
</tr>
</tbody>
</table>
MARINE SEDIMENT 0.001697 mg/kg
STP 10 mg/l
FRESH WATER 0.0027 mg/l
FRESH WATER SEDIMENT 0.1881 mg/kg
MARINE WATER 0.00027 mg/l
STP 0.2 mg/l
SOIL 0.36 mg/kg
MARINE SEDIMENT 0.01881 mg/kg

8.2 Exposure controls

Personal protective equipment
Eye protection: Wear face-shield and protective suit for abnormal processing problems.

Hand protection
Remarks: The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Skin and body protection
Remarks: Choose body protection according to the amount and concentration of the dangerous substance at the work place.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance: liquid

Colour: No data available

Odour: characteristic

Odour Threshold: No data available

pH: No data available

Freezing point: No data available

Boiling point/boiling range: 101 °C

Flash point: 101 °C

Evaporation rate: No data available

Flammability (solid, gas): No data available

Self-ignition: No data available

Auto-ignition temperature: No data available
9.2 Other information
No data available

SECTION 10: Stability and reactivity

10.1 Reactivity
No decomposition if stored and applied as directed.

10.2 Chemical stability
No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions
Hazardous reactions : No decomposition if stored and applied as directed.

10.4 Conditions to avoid
Conditions to avoid : No data available

10.5 Incompatible materials

10.6 Hazardous decomposition products
Contact with water or humid air : This information is not available.

Thermal decomposition : This information is not available.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity
Not classified based on available information.

Product:
Acute oral toxicity : Acute toxicity estimate: > 2.000 mg/kg
Method: Calculation method

Components:
hexamethylene diacrylate:
Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : (Rat): 0,14 mg/l
Exposure time: 7 h

Acute dermal toxicity : LD50 (Rabbit): 3.650 mg/kg
Method: OECD Test Guideline 402

aluminium powder (stabilised):
Acute inhalation toxicity : LC50 (Rat): > 5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

2-hydroxy-1-(4-(4-(2-hydroxy-2-methylpropionyl)benzyl)phenyl)-2-methylpropan-1-one:
Acute oral toxicity : LD50 (Rat): > 2.000 mg/kg
Acute dermal toxicity : LD50 (Rat): > 2.000 mg/kg
Skin corrosion/irritation
Causes skin irritation.

Product:
Remarks: May cause skin irritation and/or dermatitis.

Components:
Propylidynetrimethanol, ethoxylated, esters with acrylic acid:
Result: Skin irritation
Remarks: May cause skin irritation and/or dermatitis.

Glycerol, propoxylated, esters with acrylic acid:
Remarks: May cause skin irritation and/or dermatitis.

Serious eye damage/eye irritation
Causes serious eye irritation.

Product:
Remarks: Eye irritation

Components:
Propylidynetrimethanol, ethoxylated, esters with acrylic acid:
Remarks: Vapours may cause irritation to the eyes, respiratory system and the skin.

Glycerol, propoxylated, esters with acrylic acid:
Remarks: Eye irritation

Respiratory or skin sensitisation
Skin sensitisation
May cause an allergic skin reaction.

Respiratory sensitisation
Not classified based on available information.

Product:
Remarks: Causes sensitisation.
May cause sensitisation of susceptible persons by skin contact.

Components:
Propylidynetrimethanol, ethoxylated, esters with acrylic acid:
Result: May cause sensitisation by skin contact.

Remarks: Causes sensitisation.
May cause sensitisation of susceptible persons by skin contact.
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Glycerol, propoxylated, esters with acrylic acid:
Remarks: Causes sensitisation.
May cause sensitisation of susceptible persons by skin contact.

Germ cell mutagenicity
Not classified based on available information.

Carcinogenicity
Not classified based on available information.

Reproductive toxicity
Not classified based on available information.

STOT - single exposure
Not classified based on available information.

STOT - repeated exposure
Not classified based on available information.

Aspiration toxicity
Not classified based on available information.

Further information

Product:
Remarks: No data available

Components:

Propylidynetrimethanol, ethoxylated, esters with acrylic acid:
Remarks: No data available

Glycerol, propoxylated, esters with acrylic acid:
Remarks: No data available

2-ethylhexyl acrylate:
Remarks: No data available

SECTION 12: Ecological information

12.1 Toxicity

Components:

Propylidynetrimethanol, ethoxylated, esters with acrylic acid:
Toxicity to daphnia and other aquatic invertebrates:
(Daphnia (water flea)): 10.232,73 mg/l
12.2 Persistence and degradability
No data available

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment

Product: 
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.

12.6 Other adverse effects

Product: 
Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Harmful to aquatic life with long lasting effects.

Components:
Propylidynetrimethanol, ethoxylated, esters with acrylic acid:
Additional ecological information : No data available

Glycerol, propoxylated, esters with acrylic acid:
Additional ecological information : No data available

2-ethylhexyl acrylate:
Additional ecological information : No data available

SECTION 13: Disposal considerations

European Waste Catalogue : 08 03 12 - waste ink containing dangerous substances

13.1 Waste treatment methods
Product : The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company. In accordance with local and national regulations.
Contaminated packaging: Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.
In accordance with local and national regulations.

SECTION 14: Transport information

14.1 UN number
14.2 UN proper shipping name
14.3 Transport hazard class(es)
14.4 Packing group
14.5 Environmental hazards
14.6 Special precautions for user
Remarks: Not classified as dangerous in the meaning of transport regulations.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code
Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59): Not applicable

15.2 Chemical safety assessment

SECTION 16: Other information

Full text of H-Statements

H228: Flammable solid.
H302: Harmful if swallowed.
H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H319: Causes serious eye irritation.
H335: May cause respiratory irritation.
H373: May cause damage to organs through prolonged or repeated exposure.
H400: Very toxic to aquatic life.
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generated by Regulation (EC) No. 1907/2006

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<table>
<thead>
<tr>
<th>Version</th>
<th>Revision Date</th>
<th>SDS Number</th>
<th>Print Date</th>
<th>Date of first issue</th>
</tr>
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<td>07.01.2019</td>
<td>1020000002473</td>
<td>14.01.2019</td>
<td>07.01.2019</td>
</tr>
</tbody>
</table>

**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.

**Full text of other abbreviations**
- Acute Tox.: Acute toxicity
- Aquatic Acute: Short-term (acute) aquatic hazard
- Aquatic Chronic: Long-term (chronic) aquatic hazard
- Eye Irrit.: Eye irritation
- Flam. Sol.: Flammable solids
- Skin Irrit.: Skin irritation
- Skin Sens.: Skin sensitisation
- STOT RE: Specific target organ toxicity - repeated exposure
- STOT SE: Specific target organ toxicity - single exposure

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogenic, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50% of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

**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
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