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

1.1. Product identifier
Ceramic-Polymer NK C5-3 Part B

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

Use of the substance/mixture
Colour
No data available

1.3. Details of the supplier of the safety data sheet

Company name: Chesterton International GmbH
Street: Am Lenzenfleck 23
Place: DE-85737 Ismaning GERMANY
Telephone: +49 89 99 65 46 - 0
Telex: +49 89 99 65 46 - 50
Fax: +49 89 99 65 46 - 50
Email: eu-sds@chesterton.com
Internet: www.chesterton.com
Responsible Department: eu-sds@chesterton.com

1.4. Emergency telephone number:
+49(0) 551 - 1 92 40 (GIZ-Nord, 24h)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Hazard categories:
- Flammable liquid: Flam. Liq. 3
- Acute toxicity: Acute Tox. 4
- Skin corrosion/irritation: Skin Irrit. 2
- Serious eye damage/eye irritation: Eye Dam. 1
- Respiratory or skin sensitisation: Skin Sens. 1
- Specific target organ toxicity - single exposure: STOT SE 3
- Hazard Statements:
  - Flammable liquid and vapour.
  - Harmful if inhaled.
  - Causes skin irritation.
  - Causes serious eye damage.
  - May cause an allergic skin reaction.
  - May cause respiratory irritation.

2.2. Label elements

Regulation (EC) No. 1272/2008
Hazard components for labelling

Hexamethylene diisocyanate, oligomer
2-dimethylaminoethanol; N,N-dimethylethanolamine
3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate; isophorone di-isocyanate
dibutyltin dilaurate; dibuty[[bis(dodecanoyloxy)]tannane

Signal word: Danger

Pictograms:

Hazard statements

H226 Flammable liquid and vapour.
H332 Harmful if inhaled.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H317 May cause an allergic skin reaction.

Precautionary statements

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
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/doctor.
P501 Dispose of contents/container to an appropriate recycling or disposal facility.

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures
SECTION 4: First aid measures

4.1. Description of first aid measures

General information
Change contaminated, saturated clothing. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After inhalation
Remove casualty to fresh air and keep warm and at rest.
If unconscious place in recovery position and seek medical advice.

After contact with skin
After contact with skin, wash immediately with plenty of water and soap. Seek medical advice immediately.
Do not wash with: Solvents/Thinner
After contact with eyes
   After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

After ingestion
   If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Do NOT induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed
   Symptoms may develop several hours following exposure; medical observation therefore necessary for at least 48 hours.

4.3. Indication of any immediate medical attention and special treatment needed
   First Aid, decontamination, treatment of symptoms.

SECTION 5: Firefighting measures

5.1. Extinguishing media
   Suitable extinguishing media
      Dry extinguishing powder. Carbon dioxide (CO2). alcohol resistant foam. Water spray jet
   Unsuitable extinguishing media
      Full water jet

5.2. Special hazards arising from the substance or mixture
   Carbon monoxide Carbon dioxide (CO2). Nitrogen oxides (NOx)

5.3. Advice for firefighters
   Special protective equipment for firefighters Protective clothing. In case of fire: Wear self-contained breathing apparatus.

   Additional information
      Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
   See protective measures under point 7 and 8.
   Provide adequate ventilation.
   Personal protection equipment: see section 8

6.2. Environmental precautions
   Do not allow to enter into surface water or drains. Cover drains.

6.3. Methods and material for containment and cleaning up
   Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

6.4. Reference to other sections
   See protective measures under point 7 and 8.
   Disposal: see section 13
SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling
See section 8. Wear personal protection equipment (refer to section 8). Keep container tightly closed.

Advice on protection against fire and explosion
Keep away from sources of heat (e.g. hot surfaces), sparks and open flames.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels
Keep container tightly closed in a cool, well-ventilated place. Keep/Store only in original container.

Hints on joint storage
Keep away from:
- Food and feedingstuffs
- Oxidising agent

Further information on storage conditions
Keep away from:
- Frost
- Heat
- Humidity

7.3. Specific end use(s)
No information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Substance</th>
<th>ppm</th>
<th>mg/m³</th>
<th>fibres/ml</th>
<th>Category</th>
<th>Origin</th>
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</thead>
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<tr>
<td>108-65-6</td>
<td>1-Methoxypropyl acetate</td>
<td>50</td>
<td>274</td>
<td></td>
<td>TWA (8 h)</td>
<td>WEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>100</td>
<td>548</td>
<td></td>
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<td></td>
<td>6</td>
<td>22</td>
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<td>STEL (15 min)</td>
<td>WEL</td>
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<td>1330-20-7</td>
<td>Xylene: mixed isomers</td>
<td>50</td>
<td>220</td>
<td></td>
<td>TWA (8 h)</td>
<td>WEL</td>
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<tr>
<td></td>
<td></td>
<td>100</td>
<td>441</td>
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<td>STEL (15 min)</td>
<td>WEL</td>
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### Biological Monitoring Guidance Values (EH40)

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Substance</th>
<th>Parameter</th>
<th>Value</th>
<th>Test material</th>
<th>Sampling time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1330-20-7</td>
<td>Xylene, o-, m-, p- or mixed isomers</td>
<td>methyl hippuric acid (creatinine)</td>
<td>650 mmol/mol</td>
<td>urine</td>
<td>Post shift</td>
</tr>
</tbody>
</table>
### DNEL/DMEL values

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Substance</th>
<th>Exposure route</th>
<th>Effect</th>
<th>Value</th>
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<tr>
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<td>inhalation</td>
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<tr>
<td></td>
<td>Worker DNEL, long-term</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Consumer DNEL, long-term</td>
<td></td>
<td></td>
<td>65,3 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Worker DNEL, long-term</td>
<td></td>
<td>systemic</td>
<td>221 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Consumer DNEL, long-term</td>
<td></td>
<td>systemic</td>
<td>260 mg/m³</td>
</tr>
<tr>
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<td>Worker DNEL, acute</td>
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<td>systemic</td>
<td>212 mg/kg bw/day</td>
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<td>systemic</td>
<td>65,3 mg/m³</td>
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<tr>
<td></td>
<td>Consumer DNEL, acute</td>
<td></td>
<td>systemic</td>
<td>65,3 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Consumer DNEL, acute</td>
<td></td>
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<td>28182-81-2</td>
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<td>108-65-6</td>
<td>2-methoxy-1-methylethyl acetate</td>
<td>inhalation</td>
<td>local</td>
<td>0,5 mg/m³</td>
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<tr>
<td></td>
<td>Worker DNEL, long-term</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Worker DNEL, acute</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Consumer DNEL, long-term</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Consumer DNEL, long-term</td>
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<td>Consumer DNEL, long-term</td>
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<td></td>
<td>Consumer DNEL, long-term</td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Consumer DNEL, long-term</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>108-01-0</td>
<td>2-dimethylaminoethanol; N,N-dimethylethanolamine</td>
<td>inhalation</td>
<td>systemic</td>
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<td>Consumer DNEL, long-term</td>
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<td>systemic</td>
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<td>Worker DNEL, long-term</td>
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<td>systemic</td>
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<td>systemic</td>
<td>5,28 mg/m³</td>
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<td>Worker DNEL, long-term</td>
<td></td>
<td>systemic</td>
<td>1,76 mg/m³</td>
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<tr>
<td></td>
<td>Worker DNEL, acute</td>
<td></td>
<td>local</td>
<td>13,53 mg/m³</td>
</tr>
</tbody>
</table>
### Worker DNEL, long-term
- **Systemic**: 0,25 mg/kg bw/day
- **Dermal**
- **Inhalation**: 0,045 mg/m³
- **Acute inhalation systemic**: 0,04 mg/m³
- **Acute dermal systemic**: 2,08 mg/kg bw/day
- **Dermal systemic**: 0,16 mg/kg bw/day
- **Oral systemic**: 0,003 mg/kg bw/day
- **Acute oral systemic**: 0,02 mg/kg bw/day

### Worker DNEL, acute
- **Systemic**: 1,2 mg/kg bw/day
- **Dermal**
- **Inhalation**: 0,045 mg/m³
- **Acute inhalation systemic**: 0,04 mg/m³
- **Acute dermal systemic**: 0,43 mg/kg bw/day
- **Dermal systemic**: 2,08 mg/kg bw/day
- **Oral systemic**: 0,003 mg/kg bw/day
- **Acute oral systemic**: 0,02 mg/kg bw/day

### Consumer DNEL, long-term
- **Systemic**: 0,005 mg/m³
- **Dermal**
- **Inhalation**: 0,04 mg/m³
- **Acute inhalation systemic**: 0,04 mg/m³
- **Acute dermal systemic**: 0,5 mg/kg bw/day
- **Oral systemic**: 0,003 mg/kg bw/day
- **Acute oral systemic**: 0,02 mg/kg bw/day
## PNEC values

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Substance</th>
<th>Environmental compartment</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1330-20-7</td>
<td>xylene</td>
<td>Freshwater</td>
<td>0,327 mg/l</td>
</tr>
<tr>
<td></td>
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<td>Freshwater (intermittent releases)</td>
<td>0,327 mg/l</td>
</tr>
<tr>
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<td></td>
<td>Marine water</td>
<td>0,327 mg/l</td>
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<tr>
<td></td>
<td></td>
<td>Freshwater sediment</td>
<td>12,46 mg/kg</td>
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<tr>
<td></td>
<td></td>
<td>Marine sediment</td>
<td>12,46 mg/kg</td>
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<tr>
<td></td>
<td></td>
<td>Micro-organisms in sewage treatment plants (STP)</td>
<td>6,58 mg/l</td>
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<td></td>
<td></td>
<td>Soil</td>
<td>2,31 mg/kg</td>
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<td>108-65-6</td>
<td>2-methoxy-1-methylethyl acetate</td>
<td>Freshwater</td>
<td>0,635 mg/l</td>
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<td>6,35 mg/l</td>
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<td>Marine water</td>
<td>0,064 mg/l</td>
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<td>Freshwater sediment</td>
<td>3,29 mg/kg</td>
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<td>Marine sediment</td>
<td>0,329 mg/kg</td>
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<td>Micro-organisms in sewage treatment plants (STP)</td>
<td>100 mg/l</td>
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<td></td>
<td>Soil</td>
<td>0,29 mg/kg</td>
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<td>108-01-0</td>
<td>2-dimethylaminoethanol; N,N-dimethylethanolamine</td>
<td>Freshwater</td>
<td>0,066 mg/l</td>
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<td>Freshwater (intermittent releases)</td>
<td>0,661 mg/l</td>
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<td>Marine water</td>
<td>0,004 mg/l</td>
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<td>Freshwater sediment</td>
<td>0,246 mg/kg</td>
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<td>Marine sediment</td>
<td>0,015 mg/kg</td>
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<td>Micro-organisms in sewage treatment plants (STP)</td>
<td>10 mg/l</td>
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<td></td>
<td>Soil</td>
<td>0,01 mg/kg</td>
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<tr>
<td>4098-71-9</td>
<td>3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate; isophorone di-isocyanate</td>
<td>Freshwater</td>
<td>0,027 mg/l</td>
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<td>Freshwater (intermittent releases)</td>
<td>0,27 mg/l</td>
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<tr>
<td></td>
<td></td>
<td>Marine water</td>
<td>0 mg/l</td>
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<td></td>
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<td>Freshwater sediment</td>
<td>98,51 mg/kg</td>
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<td>Marine sediment</td>
<td>1,46 mg/kg</td>
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<td></td>
<td>Micro-organisms in sewage treatment plants (STP)</td>
<td>10,6 mg/l</td>
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<td>Soil</td>
<td>19,8 mg/kg</td>
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<td>dibutyltin dilaurate; dibuty[[bis(dodecanoyloxy)]stannane</td>
<td>Environmental compartment</td>
<td></td>
</tr>
</tbody>
</table>
Safety Data Sheet

according to Regulation (EC) No 1907/2006

Ceramic-Polymer NK C5-3 Part B

Revision date: 03.04.2020 Page 10 of 21

Freshwater 0 mg/l
Freshwater (intermittent releases) 0,005 mg/l
Marine water 0 mg/l
Freshwater sediment 0,05 mg/kg
Marine sediment 0,005 mg/kg
Secondary poisoning 0,2 mg/kg
Micro-organisms in sewage treatment plants (STP) 100 mg/l
Soil 0,041 mg/kg

8.2 Exposure controls

Appropriate engineering controls
Provide adequate ventilation as well as local exhaustion at critical locations.

Protective and hygiene measures
Work in well-ventilated zones or use proper respiratory protection. Only wear fitting, comfortable and clean protective clothing. Avoid contact with skin, eyes and clothes. Wash hands and face before breaks and after work and take a shower if necessary.
When using do not eat, drink, smoke, sniff.

Eye/face protection
goggles

Hand protection
Tested protective gloves must be worn: EN ISO 374
NBR (Nitrile rubber), Butyl caoutchouc (butyl rubber)
Wearing time with permanent contact: Thickness of the glove material: >= 0,4 mm, Breakthrough time (maximum wearing time): >480 min
Wearing time with occasional contact (splashes): Thickness of the glove material: >= 0,1 mm, Breakthrough time (maximum wearing time) > 30 min
For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.
Breakthrough times and swelling properties of the material must be taken into consideration.

Skin protection
Protective clothing

Respiratory protection
If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.
Combination filtering device (EN 14387) ABEK-P2
Self-contained respirator (breathing apparatus) (DIN EN 133)

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties
Physical state: Liquid
Colour: various
Odour: characteristic
pH-Value: No data available

Changes in the physical state
Melting point: No data available
Initial boiling point and boiling range: 36 °C
Sublimation point: No data available
Softening point: No data available
Pour point: No data available
Flash point: 30 °C

Flammability
Solid: No data available
Gas: No data available

Explosive properties
not explosive according to EU A.14
Vapours can form explosive mixtures with air.
Lower explosion limits: 1,1
Upper explosion limits: 7
Ignition temperature: 315 °C

Auto-ignition temperature
Solid: No data available
Gas: No data available

 Decomposition temperature: No data available

Oxidizing properties
Not oxidising.
Vapour pressure: 6,7 - 8,2 hPa
(at 20 °C)
Density (at 20 °C): 1,038 g/cm³
Water solubility: Immiscible

Solubility in other solvents
No information available.
Partition coefficient: No data available
Viscosity / dynamic: No data available
Viscosity / kinematic: 25 mm²/s
(at 20 °C)
Vapour density: No data available
Evaporation rate: No data available
Solvent content: 36,0
**SECTION 10: Stability and reactivity**

10.1. Reactivity

The product is stable under storage at normal ambient temperatures.

10.2. Chemical stability

The substance is chemically stable under recommended conditions of storage, use and temperature.

10.3. Possibility of hazardous reactions

No information available.

10.4. Conditions to avoid

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames.

10.5. Incompatible materials

No information available.

10.6. Hazardous decomposition products

No information available.

**SECTION 11: Toxicological information**

11.1. Information on toxicological effects

Acute toxicity

Harmful if inhaled.

ATEmix calculated

ATE (inhalation vapour) 14,88 mg/l; ATE (inhalation aerosol) 2,034 mg/l
<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Exposure route</th>
<th>Dose</th>
<th>Species</th>
<th>Source</th>
<th>Method</th>
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<tbody>
<tr>
<td>1330-20-7</td>
<td>xylene</td>
<td>oral</td>
<td>LD50 mg/kg</td>
<td>3523</td>
<td>Study report (1986)</td>
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<td></td>
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<td>LD50 mg/kg</td>
<td>12126</td>
<td>Publication (1962)</td>
<td>Single dermal dose under occlusion follo</td>
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<td></td>
<td>inhalation (4 h) vapour</td>
<td>LC50 6700 mg/l</td>
<td>Rat</td>
<td>Toxicol Appl Pharmacol 33:543-558. (1975)</td>
<td>EU Method B.2</td>
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<td>inhalation aerosol</td>
<td>ATE 1,5 mg/l</td>
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</tr>
<tr>
<td>28182-81-2</td>
<td>Hexamethyleneisocyanate, oligomer</td>
<td>oral</td>
<td>LD50 mg/kg</td>
<td>&gt;5000</td>
<td>Rat</td>
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<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>LD50 mg/kg</td>
<td>&gt;2000</td>
<td>Rabbit</td>
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<td></td>
<td>inhalation (4 h) vapour</td>
<td>LC50 1,67 mg/l</td>
<td>Rat</td>
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<td></td>
</tr>
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<td></td>
<td></td>
<td>inhalation aerosol</td>
<td>ATE 1,5 mg/l</td>
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</tr>
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<td>108-65-6</td>
<td>2-methoxy-1-methylethyl acetate</td>
<td>oral</td>
<td>LD50 mg/kg</td>
<td>6190 - 10000 mg/kg</td>
<td>Study report (1985)</td>
<td>OECD Guideline 401</td>
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<td></td>
<td>dermal</td>
<td>LD50 mg/kg</td>
<td>&gt; 2000</td>
<td>Rat</td>
<td>OECD Guideline 402</td>
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<td></td>
<td></td>
<td>inhalation (4 h) aerosol</td>
<td>LC50 &gt;23,878 mg/l</td>
<td>Rat</td>
<td>Study report (1985)</td>
<td>OECD Guideline 403</td>
</tr>
<tr>
<td>108-01-0</td>
<td>2-dimethylaminoethanol; N,N-dimethylethanolamine</td>
<td>oral</td>
<td>LD50 mg/kg</td>
<td>1182,7</td>
<td>Rat</td>
<td>OECD Guideline 401</td>
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<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>LD50 mg/kg</td>
<td>1219</td>
<td>Rat</td>
<td>OECD Guideline 403</td>
</tr>
<tr>
<td></td>
<td></td>
<td>inhalation (4 h) vapour</td>
<td>LC50 1641 mg/l</td>
<td>Rat</td>
<td>Study report (1996)</td>
<td>OECD Guideline 403</td>
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<td></td>
<td></td>
<td>inhalation aerosol</td>
<td>ATE 1,5 mg/l</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4098-71-9</td>
<td>3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate; isophorone di-isocyanate</td>
<td>oral</td>
<td>LD50 mg/kg</td>
<td>4814</td>
<td>Rat</td>
<td>Study report (1976)</td>
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<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>LD50 mg/kg</td>
<td>&gt; 7000</td>
<td>Rat</td>
<td>OECD Guideline 402</td>
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<tr>
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<td></td>
<td>inhalation vapour</td>
<td>ATE 3 mg/l</td>
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<td>inhalation aerosol</td>
<td>ATE 0,5 mg/l</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>77-58-7</td>
<td>dibutyltin dilaurate; dibutyl[bis(dodecanolxyloxy)]stannane</td>
<td>oral</td>
<td>LD50 mg/kg</td>
<td>2071</td>
<td>Rat</td>
<td>Study report (1981)</td>
</tr>
</tbody>
</table>
Irritation and corrosivity
Causes skin irritation.
Causes serious eye damage.

Sensitising effects
May cause an allergic skin reaction. (Hexamethylene diisocyanate, oligomer; 3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate; isophorone di-isocyanate; dibutyltin dilaurate; dibutyl[bis(dodecanoyloxy)]stannane)

Carcinogenic/mutagenic/toxic effects for reproduction
Based on available data, the classification criteria are not met.

STOT-single exposure
May cause respiratory irritation. (Hexamethylene diisocyanate, oligomer)

STOT-repeated exposure
Based on available data, the classification criteria are not met.

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

SECTION 12: Ecological information

12.1. Toxicity
### Aquatic toxicity

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Dose</th>
<th>[h]</th>
<th>[d]</th>
<th>Species</th>
<th>Source</th>
<th>Method</th>
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</thead>
<tbody>
<tr>
<td>1330-20-7</td>
<td>xylene</td>
<td>LC50</td>
<td>8.4</td>
<td>mg/l</td>
<td>Oncorhynchus mykiss</td>
<td>Ecotoxicology and Environmental Safety.</td>
<td>OECD Guideline 203</td>
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<tr>
<td></td>
<td>Acute fish toxicity</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ErC50</td>
<td></td>
<td>4.9</td>
<td>mg/l</td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EC50</td>
<td></td>
<td>&gt; 3.4</td>
<td>mg/l</td>
<td>Ceriodaphnia dubia</td>
<td>Ecotoxicology and Environmental Safety.</td>
<td>other: US EPA 600/4-91-003</td>
</tr>
<tr>
<td></td>
<td>Acute crustacea toxicity</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>NOEC</td>
<td></td>
<td>&gt; 1.3</td>
<td>mg/l</td>
<td>Oncorhynchus mykiss</td>
<td>Appl. Sci. Branch, Eng. Res. Cent. Denver</td>
<td>Fish were exposed in artificial streams</td>
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<tr>
<td></td>
<td>Fish toxicity</td>
<td></td>
<td></td>
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</tr>
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<tr>
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<td>Crustacea toxicity</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>NOEC</td>
<td></td>
<td>&gt; 100</td>
<td>mg/l</td>
<td>Daphnia magna (Big water flea)</td>
<td>Study report (1987)</td>
<td>Research Journal WPCF 60(10) 1850-1856 (OECD Guideline 209)</td>
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<td>Acute bacteria toxicity</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>(&gt; 175 mg/l)</td>
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<td>0.5</td>
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<td>28182-81-2</td>
<td>Hexamethylenediisocyanate, oligomer</td>
<td>LC50</td>
<td>&gt;100</td>
<td>mg/l</td>
<td>Brachydanio rerio (zebra-fish)</td>
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<td>OECD Guideline 203</td>
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</tr>
<tr>
<td></td>
<td>ErC50</td>
<td></td>
<td>&gt;1000</td>
<td>mg/l</td>
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<tr>
<td></td>
<td>EC50</td>
<td></td>
<td>&gt;100</td>
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<td>EU Method C.2</td>
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<td>108-65-6</td>
<td>2-methoxy-1-methylethyl acetate</td>
<td>LC50</td>
<td>100 - 180</td>
<td>mg/l</td>
<td>Oncorhynchus mykiss</td>
<td>Study report (1987)</td>
<td>OECD Guideline 203</td>
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<tr>
<td></td>
<td>ErC50</td>
<td></td>
<td>&gt;1000</td>
<td>mg/l</td>
<td>Pseudokirchneriella</td>
<td>Study report (1986)</td>
<td>OECD Guideline 201</td>
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<td>subcapitata</td>
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<tr>
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<td>&gt;500</td>
<td>mg/l</td>
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<td>Acute crustacea toxicity</td>
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<tr>
<td></td>
<td>NOEC</td>
<td></td>
<td>47.5</td>
<td>mg/l</td>
<td>Oryzias latipes</td>
<td>Study report (1998)</td>
<td>OECD Guideline 211</td>
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<tr>
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<td>Fish toxicity</td>
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</tr>
<tr>
<td></td>
<td>NOEC</td>
<td></td>
<td>&gt;100</td>
<td>mg/l</td>
<td>Daphnia magna</td>
<td>Study report (1998)</td>
<td>OECD Guideline 211</td>
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<td>Crustacea toxicity</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>NOEC</td>
<td></td>
<td>&gt;100</td>
<td>mg/l</td>
<td>Daphnia magna</td>
<td>Study report (1998)</td>
<td>OECD Guideline 211</td>
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<td>108-01-0</td>
<td>2-dimethylaminoethanol; N,N-dimethylethanolamine</td>
<td>LC50</td>
<td>146.63</td>
<td>mg/l</td>
<td>Leuciscus idus</td>
<td>REACH Registration Dossier</td>
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<td>Acute fish toxicity</td>
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</table>
### Acute algae toxicity

<table>
<thead>
<tr>
<th>Chemical Name</th>
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<th>Method</th>
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<tbody>
<tr>
<td>Desmodesmus subspicatus</td>
<td>ERAC50 &gt; 70 mg/l</td>
<td>REACH Registration Dossier Method: other: fluorimetrically determined</td>
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</table>

### Acute crustacea toxicity

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>EC50 mg/l</th>
<th>Method</th>
</tr>
</thead>
</table>

### EC50 66.08 mg/l Desmodesmus subspicatus; Fluorimetrically determined

### EC50 98.37 mg/l Daphnia magna

### Acute crustacea toxicity

### EC50 27 mg/l Daphnia magna

### Acute bacteria toxicity

### EC50 21,2 mg/l Danio rerio

### Acute fish toxicity

### LC50  > 208 mg/l Cyprinus carpio

### Acute algae toxicity

### LC50  > 1 mg/l Desmodesmus subspicatus

### Acute crustacea toxicity

### LC50 1,7 - 3,4 mg/l Daphnia magna

### Acute bacteria toxicity

### (> 1000 mg/l) activated sludge of a predominantly domestic sewage

### 77-58-7 dibutiltin dilaurate; dibutyl[1bis(dodecanolxylo)][stannane]

### LC50 21,2 mg/l Danio rerio

### LC50  > 70 mg/l Desmodesmus subspicatus

### LC50 27 mg/l Daphnia magna

### 12.2. Persistence and degradability

No information available.

### 12.3. Bioaccumulative potential

#### Partition coefficient n-octanol/water

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>1330-20-7</td>
<td>xylene</td>
<td>3.2</td>
</tr>
<tr>
<td>108-65-6</td>
<td>2-methoxy-1-methylethyl acetate</td>
<td>1.2</td>
</tr>
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<td>108-01-0</td>
<td>2-dimethylaminoethanol; N,N-dimethylethanolamine</td>
<td>-0.55</td>
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<td>4098-71-9</td>
<td>3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate; isophorone di-isocyanate</td>
<td>0.99</td>
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<tr>
<td>77-58-7</td>
<td>dibutyltin dilaurate; dibutyl[1bis(dodecanolxylo)][stannane]</td>
<td>4.44</td>
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</tbody>
</table>
Safety Data Sheet

according to Regulation (EC) No 1907/2006

Ceramic-Polymer NK C5-3 Part B

Revision date: 03.04.2020

<table>
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<th>CAS No</th>
<th>Chemical name</th>
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<th>Species</th>
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<td>1330-20-7</td>
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<td>Appl. Sci. Branch, E</td>
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<td>108-01-0</td>
<td>2-dimethylaminoethanol; N,N-dimethylethanolamine</td>
<td>3,16</td>
<td>Fish, species not reported</td>
<td>The BCFBAF program e</td>
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<td>4098-71-9</td>
<td>3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate; isophorone di-isocyanate</td>
<td>3,16</td>
<td>QSAR estimate</td>
<td>Other company data (</td>
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<td>77-58-7</td>
<td>dibutyltin dilaurate; dibutyl[bis(dodecanoyloxy)]stannane</td>
<td>1,49</td>
<td>Carassius carassius</td>
<td>Toxicol. Environ. Ch</td>
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</tbody>
</table>

12.4. Mobility in soil
No information available.

12.5. Results of PBT and vPvB assessment
The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Other adverse effects
No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations
Dispose of waste according to applicable legislation.

Contaminated packaging
Non-contaminated packages may be recycled. Dispose of waste according to applicable legislation.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number: UN 1263
14.2. UN proper shipping name: PAINT
14.3. Transport hazard class(es): 3
14.4. Packing group: III
Hazard label: 3
Classification code: F1
Special Provisions: 163 367 650
Limited quantity: 5 L
Excepted quantity: E1
Transport category: 3
Hazard No: 30
Tunnel restriction code: D/E

Inland waterways transport (ADN)

14.1. UN number: UN 1263
14.2. UN proper shipping name: Paint
14.3. Transport hazard class(es): 3
14.4. Packing group: III
Hazard label: 3
Classification code: F1
Special Provisions: 163 367 650
Limited quantity: 5 L
Exception quantity: E1

Marine transport (IMDG)
14.1. UN number: UN 1263
14.2. UN proper shipping name: PAINT
14.3. Transport hazard class(es): 3
14.4. Packing group: III
Hazard label: 3
Special Provisions: 163, 223, 367, 955
Limited quantity: 5 L
Exception quantity: E1
EmS: F-E, S-E

Air transport (ICAO-TI/IATA-DGR)
14.1. UN number: UN 1263
14.2. UN proper shipping name: PAINT
14.3. Transport hazard class(es): 3
14.4. Packing group: III
Hazard label: 3
Special Provisions: A3 A72 A192
Limited quantity Passenger: 10 L
Passenger LQ: Y344
Exception quantity: E1
IATA-packing instructions - Passenger: 355
IATA-max. quantity - Passenger: 60 L
IATA-packing instructions - Cargo: 366
IATA-max. quantity - Cargo: 220 L

14.5. Environmental hazards
ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user
No information available.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code
No information available.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
EU regulatory information
Restrictions on use (REACH, annex XVII):
   Entry 30: dibutyltin dilaurate; dibutyl[bis(dodecanoyloxy)]stannane
   2010/75/EU (VOC): 35,96
   2004/42/EC (VOC): 35,96

National regulatory information
Employment restrictions:
Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers. Observe employment restrictions for women of child-bearing age.

Water hazard class (D): 2 - obviously hazardous to water

15.2. Chemical safety assessment
For the following substances of this mixture a chemical safety assessment has been carried out:
   xylene
   2-methoxy-1-methylethyl acetate
   2-dimethylaminooethanol; N,N-dimethylethanolamine
   3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate; isophorone di-isocyanate
   dibutyltin dilaurate; dibutyl[bis(dodecanoyloxy)]stannane

SECTION 16: Other information

Abbreviations and acronyms
   ADR: Accord européen sur le transport des marchandises dangereuses par Route
   (European Agreement concerning the International Carriage of Dangerous Goods by Road)
   RID: Règlement international conernant le transport des marchandises dangereuses par chemin de fer
   (Regulations Concerning the International Transport of Dangerous Goods by Rail)
   IMDG: International Maritime Code for Dangerous Goods
   IATA: International Air Transport Association
   IATA-DGR: Dangerous Goods Refulations by the "International Air Transport Association" (IATA)
   ICAO: International Civil Aviation Organization
   ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
   CLP: Classification, labelling and Packaging
   REACH: Registration, Evaluation and Authorization of Chemicals
   GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals
   UN: United Nations
   CAS: Chemical Abstracts Service
   DNEL: Derived No Effect Level
   DMEL: Derived Minimal Effect Level
   PNEC: Predicted No Effect Concentration
   ATE: Acute toxicity estimate
   LC50: Lethal concentration, 50%
   LD50: Lethal dose, 50%
   LL50: Lethal loading, 50%
Safety Data Sheet

according to Regulation (EC) No 1907/2006

Ceramic-Polymer NK C5-3 Part B

Revision date: 03.04.2020

EL50: Effect loading, 50%
EC50: Effective Concentration 50%
ErC50: Effective Concentration 50%, growth rate
NOEC: No Observed Effect Concentration
BCF: Bio-concentration factor
PBT: persistent, bioaccumulative, toxic
vPvB: very persistent, very bioaccumulative
MARPOL: International Convention for the Prevention of Marine Pollution from Ships
IBC: Intermediate Bulk Container
SVHC: Substance of Very High Concern

Classification for mixtures and used evaluation method according to Regulation (EC) No. 1272/2008 [CLP]

<table>
<thead>
<tr>
<th>Classification</th>
<th>Classification procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flam. Liq. 3; H226</td>
<td>On basis of test data</td>
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<tr>
<td>Acute Tox. 4; H332</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Skin Irrit. 2; H315</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Eye Dam. 1; H318</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Skin Sens. 1; H317</td>
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<tr>
<td>STOT SE 3; H335</td>
<td>Calculation method</td>
</tr>
</tbody>
</table>

Relevant H and EUH statements (number and full text)

- H226 Flammable liquid and vapour.
- H302 Harmful if swallowed.
- H312 Harmful in contact with skin.
- H314 Causes severe skin burns and eye damage.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H331 Toxic if inhaled.
- H332 Harmful if inhaled.
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H335 May cause respiratory irritation.
- H341 Suspected of causing genetic defects.
- H360FD May damage fertility. May damage the unborn child.
- H370 Causes damage to organs.
- H372 Causes damage to organs through prolonged or repeated exposure.
- 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.

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.
(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)