SECTION 1: Identification

1.1 Product identifier
Identification of the substance
- Ethylenediamine tetraacetic acid disodium salt dihydrate
Article number: X986
Registration number (REACH): 01-2119486775-20-xxxx
EC number: 205-358-3
CAS number: 6381-92-6

1.2 Relevant identified uses of the substance or mixture and uses advised against
Identified uses:
- laboratory chemical
- laboratory and analytical use

1.3 Details of the supplier of the safety data sheet
- Carl Roth GmbH + Co KG
  Schoemperlenstr. 3-5
  D-76185 Karlsruhe
  Germany
- Telephone: +49 (0) 721 - 56 06 0
- Telefax: +49 (0) 721 - 56 06 149
- e-mail: sicherheit@carlroth.de
- Website: www.carlroth.de
- Competent person responsible for the safety data sheet: Department Health, Safety and Environment
- e-mail (competent person): sicherheit@carlroth.de

1.4 Emergency telephone number
- Emergency information service: Poison Centre Munich: +49/(0)89 19240

SECTION 2: Hazard(s) identification

2.1 Classification of the substance or mixture

<table>
<thead>
<tr>
<th>Classification acc. to OSHA &quot;Hazard Communication Standard&quot; (29 CFR 1910.1200)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classification acc. to GHS</td>
</tr>
<tr>
<td><strong>Section</strong></td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td>A.1I</td>
</tr>
<tr>
<td>A.9</td>
</tr>
</tbody>
</table>

Supplemental hazard information

<table>
<thead>
<tr>
<th>Code</th>
<th>Supplemental hazard information</th>
</tr>
</thead>
<tbody>
<tr>
<td>HNOC001</td>
<td>may be harmful if swallowed (GHS category 5: acutely toxic - oral)</td>
</tr>
<tr>
<td>HNOC007</td>
<td>harmful to aquatic life (GHS category 3: aquatic toxicity - acute)</td>
</tr>
</tbody>
</table>
2.2 Label elements

Labelling acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

**Signal word**  Warning

**Pictograms**

GHS07, GHS08

**Hazard statements**

H332 Harmful if inhaled
H373 May cause damage to organs (respiratory system) through prolonged or repeated exposure (if inhaled)

**Precautionary statements**

**Precautionary statements - prevention**

Do not breathe dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area.

**Precautionary statements - response**

If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell.

**Precautionary statements - disposal**

Dispose of contents/container to industrial combustion plant.

Labelling of packages where the contents do not exceed 125 ml

**Signal word:** Warning

**Symbol(s)**

HNOC001 May be harmful if swallowed (GHS category 5: acutely toxic - oral).
HNOC007 Harmful to aquatic life (GHS category 3: aquatic toxicity - acute).

2.3 Other hazards

There is no additional information.

**SECTION 3: Composition/information on ingredients**

3.1 Substances

<table>
<thead>
<tr>
<th>Name of substance</th>
<th>Ethylenediamine tetraacetic acid disodium salt dihydrate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registration number (REACH)</td>
<td>01-2119486775-20-xxxx</td>
</tr>
<tr>
<td>EC number</td>
<td>205-358-3</td>
</tr>
<tr>
<td>CAS number</td>
<td>6381-92-6</td>
</tr>
<tr>
<td>Molecular formula</td>
<td>$C_{10}H_{14}N_2Na_2O_8 \cdot 2H_2O$</td>
</tr>
<tr>
<td>Molar mass</td>
<td>372.2 g/mol</td>
</tr>
</tbody>
</table>
SECTION 4: First-aid measures

4.1 Description of first-aid measures

General notes
Take off contaminated clothing.

Following inhalation
Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

Following skin contact
Rinse skin with water/shower. In all cases of doubt, or when symptoms persist, seek medical advice.

Following eye contact
Rinse cautiously with water for several minutes. In all cases of doubt, or when symptoms persist, seek medical advice.

Following ingestion
Rinse mouth. Call a doctor if you feel unwell.

4.2 Most important symptoms and effects, both acute and delayed
Symptoms and effects are not known to date

4.3 Indication of any immediate medical attention and special treatment needed
none

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media
Co-ordinate fire-fighting measures to the fire surroundings
water spray, foam, dry extinguishing powder, carbon dioxide (CO2)

Unsuitable extinguishing media
water jet

5.2 Special hazards arising from the substance or mixture
Combustible.

Hazardous combustion products
In case of fire may be liberated: nitrogen oxides (NOx), carbon monoxide (CO), carbon dioxide (CO2)

5.3 Advice for firefighters
Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.
SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

![Warning]

For non-emergency personnel
Do not breathe dust. Avoid contact with skin and eyes. Provide adequate ventilation.

6.2 Environmental precautions
Keep away from drains, surface and ground water.

6.3 Methods and material for containment and cleaning up

Advices on how to contain a spill
Covering of drains.

Advices on how to clean up a spill
Take up mechanically. Control of dust.

Other information relating to spills and releases
Place in appropriate containers for disposal.

6.4 Reference to other sections

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Provide adequate ventilation as well as local exhaustion at critical locations. Avoid dust formation.

• Measures to prevent fire as well as aerosol and dust generation
Removal of dust deposits.

Advice on general occupational hygiene
Wash hands before breaks and after work.

7.2 Conditions for safe storage, including any incompatibilities
Keep container tightly closed. Store in a dry place.

Incompatible substances or mixtures
Observe compatible storage of chemicals.

Consideration of other advice

• Ventilation requirements
Use local and general ventilation.

• Specific designs for storage rooms or vessels
Recommended storage temperature: 15 – 25 °C.

7.3 Specific end use(s)
No information available.
SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

<table>
<thead>
<tr>
<th>Country</th>
<th>Name of agent</th>
<th>CAS No</th>
<th>Notation</th>
<th>Identifier</th>
<th>TWA [mg/m³]</th>
<th>STEL [mg/m³]</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>particulates not otherwise classified (PNOC)</td>
<td>i, dust</td>
<td>PEL</td>
<td>15</td>
<td></td>
<td></td>
<td>29 CFR 1910.1000</td>
</tr>
<tr>
<td>US</td>
<td>particulates not otherwise classified (PNOC)</td>
<td>partml, r, dust</td>
<td>PEL</td>
<td>5</td>
<td></td>
<td></td>
<td>29 CFR 1910.1000</td>
</tr>
</tbody>
</table>

Notation
- dust: As dust
- i: Inhalable fraction
- partml: Particles/ml
- r: Respirable fraction
- STEL: Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
- TWA: Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

Relevant DNELs/DMELs/PNECs and other threshold levels

- **human health values**

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Threshold level</th>
<th>Protection goal, route of exposure</th>
<th>Used in</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNEL</td>
<td>1.5 mg/m³</td>
<td>human, inhalatory</td>
<td>worker (industry)</td>
<td>chronic - local effects</td>
</tr>
<tr>
<td>DNEL</td>
<td>3 mg/m³</td>
<td>human, inhalatory</td>
<td>worker (industry)</td>
<td>acute - local effects</td>
</tr>
</tbody>
</table>

- **environment values**

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Threshold level</th>
<th>Environmental compartment</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>PNEC</td>
<td>2.2 mg/l</td>
<td>freshwater</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>PNEC</td>
<td>0.22 mg/l</td>
<td>marine water</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>PNEC</td>
<td>43 mg/l</td>
<td>sewage treatment plant (STP)</td>
<td>short-term (single instance)</td>
</tr>
</tbody>
</table>

8.2 Exposure controls

Individual protection measures (personal protective equipment)

**Eye/face protection**

Use safety goggle with side protection.

**Skin protection**
• **hand protection**
  Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. 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.

• **type of material**
  NBR (Nitrile rubber)

• **material thickness**
  >0,11 mm

• **breakthrough times of the glove material**
  >480 minutes (permeation: level 6)

• **other protection measures**
  Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

**Respiratory protection**

Respiratory protection necessary at: Dust formation. Particulate filter device (EN 143). P2 (filters at least 94 % of airborne particles, color code: White).

**Environmental exposure controls**

Keep away from drains, surface and ground water.

---

**SECTION 9: Physical and chemical properties**

9.1 **Information on basic physical and chemical properties**

**Appearance**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>solid (crystalline)</td>
</tr>
<tr>
<td>Color</td>
<td>white</td>
</tr>
<tr>
<td>Odor</td>
<td>odorless</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
</tbody>
</table>

**Other physical and chemical parameters**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH (value)</td>
<td>4 – 6 (water: 50 g/l, 20 °C)</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>110 °C</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>This information is not available.</td>
</tr>
<tr>
<td>Flash point</td>
<td>not applicable</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>no data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>These information are not available</td>
</tr>
</tbody>
</table>

**Explosive limits**

- **lower explosion limit (LEL)**: this information is not available
- **upper explosion limit (UEL)**: this information is not available
- Explosion limits of dust clouds: these information are not available
**Ethylene diamine tetraacetic acid disodium salt dihydrate ≥ 99%, USP**

**Vapor pressure**
This information is not available.

**Density**
This information is not available.

**Vapor density**
This information is not available.

**Bulk density**
~ 700 kg/m³

**Relative density**
Information on this property is not available.

**Solubility(ies)**

**Water solubility**
~ 100 g/l at 20 °C

**Partition coefficient**

**n-octanol/water (log KOW)**
This information is not available.

**Auto-ignition temperature**
Information on this property is not available.

**Decomposition temperature**
> 250 °C

**Viscosity**
not relevant (solid matter)

**Explosive properties**
Shall not be classified as explosive

**Oxidizing properties**
none

**SECTION 10: Stability and reactivity**

**10.1 Reactivity**
Dust explosibility.

**10.2 Chemical stability**
The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

**10.3 Possibility of hazardous reactions**
Violent reaction with: Strong oxidizer

**10.4 Conditions to avoid**
Keep away from heat. Decomposition takes place from temperatures above: >250 °C.

**10.5 Incompatible materials**
There is no additional information.

**10.6 Hazardous decomposition products**
Hazardous combustion products: see section 5.

**SECTION 11: Toxicological information**

**11.1 Information on toxicological effects**

**Acute toxicity**

<table>
<thead>
<tr>
<th>Exposure route</th>
<th>Endpoint</th>
<th>Value</th>
<th>Species</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>oral</td>
<td>LD50</td>
<td>2,800 mg/kg</td>
<td>rat</td>
<td>ECHA</td>
</tr>
</tbody>
</table>
Skin corrosion/irritation
Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation
Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitization
Shall not be classified as a respiratory or skin sensitizer.

Summary of evaluation of the CMR properties
Shall not be classified as germ cell mutagenic, carcinogenic nor as a reproductive toxicant

• Specific target organ toxicity - single exposure
Shall not be classified as a specific target organ toxicant (single exposure).

• Specific target organ toxicity - repeated exposure
May cause damage to organs (respiratory system) through prolonged or repeated exposure (if inhaled).

Aspiration hazard
Shall not be classified as presenting an aspiration hazard.

Symptoms related to the physical, chemical and toxicological characteristics

• If swallowed
data are not available

• If in eyes
essentially non-irritating

• If inhaled
data are not available

• If on skin
essentially non-irritating

Other information
None

SECTION 12: Ecological information

12.1 Toxicity
acc. to 1272/2008/EC: Shall not be classified as hazardous to the aquatic environment.

Aquatic toxicity (acute)

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Value</th>
<th>Species</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50</td>
<td>41 mg/l</td>
<td>bluegill (Lepomis macrochirus)</td>
<td>96 h</td>
</tr>
<tr>
<td>EC50</td>
<td>610 mg/l</td>
<td>daphnia magna</td>
<td>24 h</td>
</tr>
</tbody>
</table>
Aquatic toxicity (chronic)

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Value</th>
<th>Species</th>
<th>Source</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC50</td>
<td>56 mg/l</td>
<td>Pseudomonas putida</td>
<td></td>
<td>8 h</td>
</tr>
<tr>
<td>NOEC</td>
<td>25.7 mg/l</td>
<td>zebra fish (Danio rerio)</td>
<td>ECHA</td>
<td>35 d</td>
</tr>
<tr>
<td>LOEC</td>
<td>50 mg/l</td>
<td>daphnia magna</td>
<td>ECHA</td>
<td>21 d</td>
</tr>
<tr>
<td>growth (EbCx) 10%</td>
<td>&gt;500 mg/l</td>
<td>microorganisms</td>
<td>ECHA</td>
<td>30 min</td>
</tr>
</tbody>
</table>

12.2 Process of degradability
Theoretical Oxygen Demand with nitrification: 0.8811 mg/mg
Theoretical Oxygen Demand: 0.6984 mg/mg
Theoretical Carbon Dioxide: 1.182 mg/mg

12.3 Bioaccumulative potential
BCF 1.8 (ECHA)

12.4 Mobility in soil
Data are not available.

12.5 Results of PBT and vPvB assessment
Data are not available.

12.6 Other adverse effects
Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

Sewage disposal-relevant information
Do not empty into drains.

13.2 Relevant provisions relating to waste
The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

13.3 Remarks
Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.
**SECTION 14: Transport information**

14.1 UN number  (not subject to transport regulations)

14.2 UN proper shipping name  not relevant

14.3 Transport hazard class(es)  not relevant

   Class

14.4 Packing group  not relevant

14.5 Environmental hazards  none (non-environmentally hazardous acc. to the dangerous goods regulations)

14.6 Special precautions for user

   There is no additional information.

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

   The cargo is not intended to be carried in bulk.

14.8 Information for each of the UN Model Regulations

   • Transport of dangerous goods by road or rail (49 CFR US DOT)
     Not subject to transport regulations.

   • International Maritime Dangerous Goods Code (IMDG)
     Not subject to IMDG.

   • International Civil Aviation Organization (ICAO-IATA/DGR)
     Not subject to ICAO-IATA.

**SECTION 15: Regulatory information**

15.1 Safety, health and environmental regulations specific for the product in question

   National regulations (United States)

   Superfund Amendment and Reauthorization Act (SARA TITLE III )

   The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)

   Not listed.

   Specific Toxic Chemical Listings (EPCRA Section 313)

   Not listed.

   CERCLA

   List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4)

   Not listed.

   Clean Air Act

   Not listed.

   New Jersey Worker and Community Right to Know Act

   Not listed.

   California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987

   Not listed.
Drug precursors
Not listed.

Industry or sector specific available guidance(s)
NPCA-HMIS® III

<table>
<thead>
<tr>
<th>Category</th>
<th>Rating</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronic</td>
<td>*</td>
<td>chronic (long-term) health effects may result from repeated overexposure</td>
</tr>
<tr>
<td>Health</td>
<td>2</td>
<td>temporary or minor injury may occur</td>
</tr>
<tr>
<td>Flammability</td>
<td>2</td>
<td>material that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur</td>
</tr>
<tr>
<td>Physical hazard</td>
<td>0</td>
<td>material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive</td>
</tr>
<tr>
<td>Personal protection</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Chronic: Chronic hazard
Flammability: Flammability hazard
Health: Health hazard
Personal protection: Personal protective equipment (PPE) for normal use
Physical hazard: Reactivity

NFPA® 704

<table>
<thead>
<tr>
<th>Category</th>
<th>Degree of hazard</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability</td>
<td>2</td>
<td>material that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur</td>
</tr>
<tr>
<td>Health</td>
<td>3</td>
<td>material that, under emergency conditions, can cause serious or permanent injury</td>
</tr>
<tr>
<td>Instability</td>
<td>0</td>
<td>material that is normally stable, even under fire conditions</td>
</tr>
<tr>
<td>Special hazard</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Flammability: Flammability hazard
Health: Health hazard
Instability: Instability hazard

National inventories
Substance is listed in the following national inventories:

<table>
<thead>
<tr>
<th>Country</th>
<th>National inventories</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>AU</td>
<td>AICS</td>
<td>substance is listed</td>
</tr>
<tr>
<td>CA</td>
<td>DSL</td>
<td>substance is listed</td>
</tr>
<tr>
<td>CN</td>
<td>IECSC</td>
<td>substance is listed</td>
</tr>
<tr>
<td>EU</td>
<td>ECSI</td>
<td>substance is listed</td>
</tr>
<tr>
<td>EU</td>
<td>REACH Reg.</td>
<td>substance is listed</td>
</tr>
<tr>
<td>MX</td>
<td>INSQ</td>
<td>substance is listed</td>
</tr>
</tbody>
</table>

United States (en)
## National inventories

<table>
<thead>
<tr>
<th>Country</th>
<th>National inventories</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>NZ</td>
<td>NZIoC</td>
<td>substance is listed</td>
</tr>
<tr>
<td>PH</td>
<td>PICCS</td>
<td>substance is listed</td>
</tr>
<tr>
<td>TR</td>
<td>CICR</td>
<td>substance is listed</td>
</tr>
<tr>
<td>TW</td>
<td>TCSI</td>
<td>substance is listed</td>
</tr>
</tbody>
</table>

### Legend

- **AICS**: Australian Inventory of Chemical Substances
- **CICR**: Chemical Inventory and Control Regulation
- **DSL**: Domestic Substances List (DSL)
- **ECSI**: EC Substance Inventory (EINECS, ELINCS, NLP)
- **IECSC**: Inventory of Existing Chemical Substances Produced or Imported in China
- **INSQ**: National Inventory of Chemical Substances
- **NZIoC**: New Zealand Inventory of Chemicals
- **PICCS**: Philippine Inventory of Chemicals and Chemical Substances
- **REACH Reg.**: REACH registered substances
- **TCSI**: Taiwan Chemical Substance Inventory

### 15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

### SECTION 16: Other information, including date of preparation or last revision

<table>
<thead>
<tr>
<th>Abbrev.</th>
<th>Descriptions of used abbreviations</th>
</tr>
</thead>
<tbody>
<tr>
<td>49 CFR US DOT</td>
<td>49 CFR § 40 U.S. Department of Transportation</td>
</tr>
<tr>
<td>BCF</td>
<td>bioconcentration factor</td>
</tr>
<tr>
<td>CAS</td>
<td>Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)</td>
</tr>
<tr>
<td>CERCLA</td>
<td>Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)</td>
</tr>
<tr>
<td>CMR</td>
<td>Carcinogenic, Mutagenic or toxic for Reproduction</td>
</tr>
<tr>
<td>DGR</td>
<td>Dangerous Goods Regulations (see IATA/DGR)</td>
</tr>
<tr>
<td>DMEL</td>
<td>Derived Minimal Effect Level</td>
</tr>
<tr>
<td>DNEL</td>
<td>Derived No-Effect Level</td>
</tr>
<tr>
<td>EINECS</td>
<td>European Inventory of Existing Commercial Chemical Substances</td>
</tr>
<tr>
<td>ELINCS</td>
<td>European List of Notified Chemical Substances</td>
</tr>
<tr>
<td>GHS</td>
<td>&quot;Globally Harmonized System of Classification and Labelling of Chemicals&quot; developed by the United Nations</td>
</tr>
<tr>
<td>IATA</td>
<td>International Air Transport Association</td>
</tr>
<tr>
<td>IATA/DGR</td>
<td>Dangerous Goods Regulations (DGR) for the air transport (IATA)</td>
</tr>
<tr>
<td>ICAO</td>
<td>International Civil Aviation Organization</td>
</tr>
<tr>
<td>IMDG</td>
<td>International Maritime Dangerous Goods Code</td>
</tr>
<tr>
<td>MARPOL</td>
<td>International Convention for the Prevention of Pollution from Ships (abbr. of &quot;Marine Pollutant&quot;)</td>
</tr>
<tr>
<td>NLP</td>
<td>No-Longer Polymer</td>
</tr>
</tbody>
</table>
Safety data sheet
acc. to OSHA, Appendix D to § 1910.1200

Ethylenediamine tetraacetic acid disodium salt dihydrate ≥ 99%, USP

article number: X986

<table>
<thead>
<tr>
<th>Abbr.</th>
<th>Descriptions of used abbreviations</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSHA</td>
<td>Occupational Safety and Health Administration (United States)</td>
</tr>
<tr>
<td>PBT</td>
<td>Persistent, Bioaccumulative and Toxic</td>
</tr>
<tr>
<td>PEL</td>
<td>permissible exposure limit</td>
</tr>
<tr>
<td>PNEC</td>
<td>Predicted No-Effect Concentration</td>
</tr>
<tr>
<td>REACH</td>
<td>Registration, Evaluation, Authorisation and Restriction of Chemicals</td>
</tr>
<tr>
<td>STEL</td>
<td>short-term exposure limit</td>
</tr>
<tr>
<td>TWA</td>
<td>time-weighted average</td>
</tr>
<tr>
<td>vPvB</td>
<td>very Persistent and very Bioaccumulative</td>
</tr>
</tbody>
</table>

Key literature references and sources for data
- Transport of dangerous goods by road or rail (49 CFR US DOT)
- Dangerous Goods Regulations (DGR) for the air transport (IATA)
- International Maritime Dangerous Goods Code (IMDG)

List of relevant phrases (code and full text as stated in chapter 2 and 3)

<table>
<thead>
<tr>
<th>Code</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>H332</td>
<td>harmful if inhaled</td>
</tr>
<tr>
<td>H373</td>
<td>may cause damage to organs (respiratory system) through prolonged or repeated exposure (if inhaled)</td>
</tr>
</tbody>
</table>

Disclaimer

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.