

Printing date 05/07/2018

Reviewed on 05/10/2016

## 1 Identification

- **Product identifier**
- **Trade name:** ProInfusion Med Hardener
- **Article number:** 1025962
- **Application of the substance / the mixture** Epoxy curing agent
- **Details of the supplier of the safety data sheet** SikaAxson US - EHS Department
- **Manufacturer/Supplier:**  
Company Name: Axson Technologies US, Inc.-SikaAxson

Headquarters:  
 31200 Stephenson Hwy  
 Madison Heights, MI 48071  
 USA

Manufacturing Site:  
 1611 Hults Drive  
 Eaton Rapids, MI 48827  
 USA  
 ehs-us@axson.com

- **Information department:** Product safety department
- **Emergency telephone number:**  
 During normal opening times: +1 (248) 588-2270  
 CHEMTREC 24-hour Emergency: +1 (800) 424-9300

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08 Health hazard

Repr. 2                      H361 Suspected of damaging fertility or the unborn child.



GHS05 Corrosion

Skin Corr. 1A              H314 Causes severe skin burns and eye damage.

Eye Dam. 1                H318 Causes serious eye damage.



GHS09 Environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



GHS07

Acute Tox. 4                H302 Harmful if swallowed.

Skin Sens. 1                H317 May cause an allergic skin reaction.

(Contd. on page 2)

US

Printing date 05/07/2018

Reviewed on 05/10/2016

**Trade name: ProInfusion Med Hardener**

(Contd. of page 1)

*Aquatic Acute 3 H402 Harmful to aquatic life.*
**Label elements**
**GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

**Hazard pictograms**


GHS05    GHS07    GHS08    GHS09

**Signal word** *Danger*
**Hazard-determining components of labeling:**
*3-aminomethyl-3,5,5-trimethylcyclohexylamine*
*4-tert-butylphenol*
*Polyoxypropylenediamine*
*1,6-Hexanediamine, 2,2,4 (or 2,4,4)-trimethyl-*
*m-phenylenebis(methylamine)*
**Hazard statements**
*Harmful if swallowed.*
*Causes severe skin burns and eye damage.*
*May cause an allergic skin reaction.*
*Suspected of damaging fertility or the unborn child.*
*Harmful to aquatic life.*
*Toxic to aquatic life with long lasting effects.*
**Precautionary statements**
*Avoid breathing dust/fume/gas/mist/vapors/spray*
*Do not breathe dusts or mists.*
*Wear protective gloves/protective clothing/eye protection/face protection.*
*If swallowed: Call a poison center/doctor if you feel unwell.*
*If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.*
*IF INHALED: Remove person to fresh air and keep comfortable for breathing.*
*If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.*
*Continue rinsing.*
*Immediately call a poison center/doctor.*
*Specific treatment (see on this label).*
*Store locked up.*
*Dispose of contents/container in accordance with local/regional/national/international regulations.*
**Classification system:**
**NFPA ratings (scale 0 - 4)**

*Health = 3*
*Fire = 1*
*Reactivity = 0*
**HMIS-ratings (scale 0 - 4)**

*Health = \*3*
*Fire = 1*
*Reactivity = 0*

(Contd. on page 3)



BUILDING TRUST



## Safety Data Sheet

acc. to OSHA HCS

Printing date 05/07/2018

Reviewed on 05/10/2016

**Trade name: ProInfusion Med Hardener**

(Contd. of page 2)

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

### 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

|                                      |  |          |
|--------------------------------------|--|----------|
| CAS: 9046-10-0                       | Polyoxypropylenediamine                        | ≥25-≤50% |
| CAS: 2855-13-2<br>EINECS: 220-666-8  | 3-aminomethyl-3,5,5-trimethylcyclohexylamine   | ≥25-≤50% |
| CAS: 25513-64-8<br>EINECS: 247-134-8 | 1,6-Hexanediamine, 2,2,4 (or 2,4,4)-trimethyl- | ≥5-<10%  |
| CAS: 98-54-4<br>EINECS: 202-679-0    | 4-tert-butylphenol                             | ≥5-<10%  |
| CAS: 2579-20-6<br>EINECS: 219-941-5  | 1,3-Cyclohexanedimethanamine                   | 1-5%     |
| CAS: 1477-55-0<br>EINECS: 216-032-5  | m-phenylenebis(methylamine)                    | ≥3-<5%   |
| CAS: 90-72-2<br>EINECS: 202-013-9    | 2,4,6-tris(dimethylaminomethyl)phenol          | 1-5%     |

### 4 First-aid measures

- **Description of first aid measures**
- **General information:**  
Immediately remove any clothing soiled by the product.  
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:**  
Supply fresh air and to be sure call for a doctor.  
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**  
Immediately call a doctor.  
Drink copious amounts of water and provide fresh air. Immediately call a doctor.
- **Information for doctor:**  
· **Most important symptoms and effects, both acute and delayed** No further relevant information available.  
· **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

US

(Contd. on page 4)



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## Safety Data Sheet

acc. to OSHA HCS

Printing date 05/07/2018

Reviewed on 05/10/2016

Trade name: ProInfusion Med Hardener

(Contd. of page 3)

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.
- **Additional information**  
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**  
Inform respective authorities in case of seepage into water course or sewage system.  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Use neutralizing agent.  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

· **PAC-1:**

|           |                                       |                       |
|-----------|---------------------------------------|-----------------------|
| 9046-10-0 | Polyoxypropylenediamine               | 4.8 mg/m <sup>3</sup> |
| 98-54-4   | 4-tert-butylphenol                    | 1.5 mg/m <sup>3</sup> |
| 90-72-2   | 2,4,6-tris(dimethylaminomethyl)phenol | 6.5 mg/m <sup>3</sup> |
| 75-56-9   | propylene oxide                       | 73 ppm                |

· **PAC-2:**

|           |                                       |                      |
|-----------|---------------------------------------|----------------------|
| 9046-10-0 | Polyoxypropylenediamine               | 53 mg/m <sup>3</sup> |
| 98-54-4   | 4-tert-butylphenol                    | 40 mg/m <sup>3</sup> |
| 90-72-2   | 2,4,6-tris(dimethylaminomethyl)phenol | 72 mg/m <sup>3</sup> |
| 75-56-9   | propylene oxide                       | 290 ppm              |

· **PAC-3:**

|           |                                       |                       |
|-----------|---------------------------------------|-----------------------|
| 9046-10-0 | Polyoxypropylenediamine               | 320 mg/m <sup>3</sup> |
| 98-54-4   | 4-tert-butylphenol                    | 240 mg/m <sup>3</sup> |
| 90-72-2   | 2,4,6-tris(dimethylaminomethyl)phenol | 430 mg/m <sup>3</sup> |
| 75-56-9   | propylene oxide                       | 870 ppm               |

US

(Contd. on page 5)

Printing date 05/07/2018

Reviewed on 05/10/2016

**Trade name: ProInfusion Med Hardener**

(Contd. of page 4)

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes.  
Avoid contact with the eyes and skin.
- **Breathing equipment:** Not required.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

(Contd. on page 6)

US

Printing date 05/07/2018

Reviewed on 05/10/2016

Trade name: ProInfusion Med Hardener

(Contd. of page 5)

· Eye protection:



Tightly sealed goggles

## 9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

|                   |                 |
|-------------------|-----------------|
| · Form:           | Liquid          |
| · Color:          | Light amber     |
| · Odor:           | Amine-like      |
| · Odor threshold: | Not determined. |

· pH-value: Not determined.

· Change in condition

|                                |                   |
|--------------------------------|-------------------|
| · Melting point/Melting range: | Undetermined.     |
| · Boiling point/Boiling range: | >200 °C (>392 °F) |

· Flash point: 110 °C (230 °F)

· Flammability (solid, gaseous): Not applicable.

· Ignition temperature: 510 °C (950 °F)

· Decomposition temperature: Not determined.

· Auto igniting: Product is not selfigniting.

· Danger of explosion: Product does not present an explosion hazard.

· Explosion limits:

|          |           |
|----------|-----------|
| · Lower: | 0.7 Vol % |
| · Upper: | 5 Vol %   |

· Vapor pressure: Not determined.

· Density at 20 °C (68 °F): 0.92 g/cm<sup>3</sup> (7.68 lbs/gal)

· Relative density: Not determined.

· Vapor density: Not determined.

· Evaporation rate: Not determined.

· Solubility in / Miscibility with

· Water: Not miscible or difficult to mix.

· Partition coefficient (n-octanol/water): Not determined.

· Viscosity:

|              |                 |
|--------------|-----------------|
| · Dynamic:   | Not determined. |
| · Kinematic: | Not determined. |

(Contd. on page 7)

US

Printing date 05/07/2018

Reviewed on 05/10/2016

**Trade name: ProInfusion Med Hardener**

(Contd. of page 6)

|                            |  |
|----------------------------|--|
| · <b>Solvent content:</b>  |  |
| · <b>VOC content:</b>      | 0.00 %<br>0.0 g/l / 0.00 lb/gl             |
| · <b>Solids content:</b>   | 10.5 %                                     |
| · <b>Other information</b> | No further relevant information available. |

## 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:**  
?  
Carbon monoxide and carbon dioxide

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

### 9046-10-0 Polyoxypropylenediamine

|        |      |                      |
|--------|------|----------------------|
| Oral   | LD50 | 2,855 mg/kg (rabbit) |
| Dermal | LD50 | 2,980 mg/kg (rabbit) |

### 2855-13-2 3-aminomethyl-3,5,5-trimethylcyclohexylamine

|        |      |                   |
|--------|------|-------------------|
| Oral   | LD50 | 1,030 mg/kg (rat) |
| Dermal | LD50 | 2,000 mg/kg (rat) |

### 25513-64-8 1,6-Hexanediamine, 2,2,4 (or 2,4,4)-trimethyl-

|      |      |                 |
|------|------|-----------------|
| Oral | LD50 | 900 mg/kg (rat) |
|------|------|-----------------|

### 98-54-4 4-tert-butylphenol

|        |      |                      |
|--------|------|----------------------|
| Oral   | LD50 | 2,951 mg/kg (rat)    |
| Dermal | LD50 | 2,288 mg/kg (rabbit) |

- **Primary irritant effect:**
- **on the skin:** Strong caustic effect on skin and mucous membranes.
- **on the eye:**  
Strong caustic effect.  
Strong irritant with the danger of severe eye injury.
- **Sensitization:** Sensitization possible through skin contact.
- **Additional toxicological information:**  
The product shows the following dangers according to internally approved calculation methods for preparations:  
Harmful  
Corrosive

(Contd. on page 8)

**Trade name: ProInfusion Med Hardener**

(Contd. of page 7)

**Irritant**

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

**· Carcinogenic categories**

**· IARC (International Agency for Research on Cancer)**

|         |                 |    |
|---------|-----------------|----|
| 75-56-9 | propylene oxide | 2B |
|---------|-----------------|----|

**· NTP (National Toxicology Program)**

|         |                 |   |
|---------|-----------------|---|
| 75-56-9 | propylene oxide | R |
|---------|-----------------|---|

**· OSHA-Ca (Occupational Safety & Health Administration)**

|                                    |  |  |
|------------------------------------|--|--|
| None of the ingredients is listed. |  |  |
|------------------------------------|--|--|

**12 Ecological information**

**· Toxicity**

**· Aquatic toxicity:**

|  |                            |  |
|--|----------------------------|--|
| <b>9046-10-0 Polyoxypropylenediamine</b>                         |                            |  |
| 48 hr EC50   | 80 mg/l (daphnia)          |  |
| 96 hr LC50   | 772 mg/l (Fish)            |  |
| 72 or 96 hr ErC50  | 15 mg/l (Algea)            |  |
| <b>2855-13-2 3-aminomethyl-3,5,5-trimethylcyclohexylamine</b>    |                            |  |
| 96 hr LC50   | 110 mg/l (Fish)            |  |
| NOEC   | 3 mg/l (daphnia)           |  |
| <b>25513-64-8 1,6-Hexanediamine, 2,2,4 (or 2,4,4)-trimethyl-</b> |                            |  |
| 72 or 96 hr ErC50  | 43.5 mg/l (Algea)          |  |
| NOEC   | 16 mg/l (Algea)            |  |
| <b>98-54-4 4-tert-butylphenol</b>                                |                            |  |
| 48 hr EC50   | 3.4 mg/l (daphnia)         |  |
| 96 hr LC50   | 4.71 mg/l (Fathead minnow) |  |

**· Persistence and degradability** No further relevant information available.

**· Behavior in environmental systems:**

**· Bioaccumulative potential** No further relevant information available.

**· Mobility in soil** No further relevant information available.

**· Ecotoxicological effects:**

**· Remark:** Toxic for fish

**· Additional ecological information:**

**· General notes:**

Water hazard class 2 (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Must not reach bodies of water or drainage ditch undiluted or unneutralized.

Danger to drinking water if even small quantities leak into the ground.

Also poisonous for fish and plankton in water bodies.

Toxic for aquatic organisms

**· Results of PBT and vPvB assessment**

**· PBT:** Not applicable.

(Contd. on page 9)



Printing date 05/07/2018

Reviewed on 05/10/2016

**Trade name: ProInfusion Med Hardener**

(Contd. of page 8)

- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
 Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

### 14 Transport information

|  |  |
|--|--|
| <ul style="list-style-type: none"> <li>· <b>UN-Number</b></li> <li>· <b>DOT, IMDG, IATA</b></li> </ul>   | UN1760   |
| <ul style="list-style-type: none"> <li>· <b>UN proper shipping name</b></li> <li>· <b>DOT</b></li> <li>· <b>IMDG</b></li> <li>· <b>IATA</b></li> </ul> | Corrosive liquids, n.o.s. (Polyoxypropylenediamine, m-phenylenebis(methylamine))<br>CORROSIVE LIQUID, N.O.S. (Polyoxypropylenediamine, m-phenylenebis(methylamine)), MARINE POLLUTANT<br>CORROSIVE LIQUID, N.O.S. (Polyoxypropylenediamine, m-phenylenebis(methylamine)) |
| <ul style="list-style-type: none"> <li>· <b>Transport hazard class(es)</b></li> <li>· <b>DOT</b></li> </ul>  |  |
| <ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>   | 8 Corrosive substances<br>8  |
| <ul style="list-style-type: none"> <li>· <b>IMDG</b></li> </ul>  |  |
| <ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>   | 8 Corrosive substances<br>8  |
| <ul style="list-style-type: none"> <li>· <b>IATA</b></li> </ul>  |  |
| <ul style="list-style-type: none"> <li>· <b>Class</b></li> </ul>   | 8 Corrosive substances   |

(Contd. on page 10)



BUILDING TRUST



## Safety Data Sheet

acc. to OSHA HCS

Printing date 05/07/2018

Reviewed on 05/10/2016

Trade name: ProInfusion Med Hardener

(Contd. of page 9)

|  |   |
|--|---|
| · <b>Label</b>   | 8   |
| · <b>Packing group</b><br>· <b>DOT, IMDG, IATA</b>   | III   |
| · <b>Environmental hazards:</b><br>· <b>Marine pollutant:</b>  | Product contains environmentally hazardous substances:<br>Polyoxypropylenediamine<br>Yes (DOT)<br>Symbol (fish and tree)    |
| · <b>Special precautions for user</b><br>· <b>Danger code (Kemler):</b><br>· <b>EMS Number:</b><br>· <b>Segregation groups</b><br>· <b>Stowage Category</b><br>· <b>Stowage Code</b> | Warning: Corrosive substances<br>80<br>F-A,S-B<br>Alkalis<br>A<br>SW2 Clear of living quarters.                             |
| · <b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>  | Not applicable.   |
| · <b>Transport/Additional information:</b><br>· <b>DOT</b><br>· <b>Quantity limitations</b><br>· <b>Remarks:</b>   | On passenger aircraft/rail: 5 L<br>On cargo aircraft only: 60 L<br>Special marking with the symbol (fish and tree).         |
| · <b>IMDG</b><br>· <b>Limited quantities (LQ)</b><br>· <b>Excepted quantities (EQ)</b>   | 5L<br>Code: E1<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 1000 ml      |
| · <b>UN "Model Regulation":</b>  | UN 1760 CORROSIVE LIQUIDS, N.O.S. (POLYOXYPROPYLENEDIAMINE, M-PHENYLENEBIS(METHYLAMINE)), 8, III, ENVIRONMENTALLY HAZARDOUS |

### 15 Regulatory information

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

#### · Section 355 (extremely hazardous substances):

75-56-9 | propylene oxide

#### · Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

#### · TSCA (Toxic Substances Control Act) (Substances not listed):

71074-89-0 | Bis(dimethylaminomethyl)phenol

#### · Chemicals regulated by TSCA Section 12(b)

None of the ingredients is listed.

(Contd. on page 11)

US

Printing date 05/07/2018

Reviewed on 05/10/2016

**Trade name: ProInfusion Med Hardener**

(Contd. of page 10)

**· Chemical regulated by TSCA 5(a)(2)rule:**

None of the ingredients is listed.

**· Proposition 65**
**· Chemicals known to cause cancer:**

75-56-9 propylene oxide

**· Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

**· Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

**· Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

**· Carcinogenic categories**
**· EPA (Environmental Protection Agency)**

75-56-9 propylene oxide

B2

**· TLV (Threshold Limit Value established by ACGIH)**

75-56-9 propylene oxide

A3

**· NIOSH-Ca (National Institute for Occupational Safety and Health)**

75-56-9 propylene oxide

**· Listed in CWC Regulations**

None of the ingredients is listed.

**· GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

**· Hazard pictograms**


GHS05

GHS07

GHS08

GHS09

**· Signal word** *Danger*
**· Hazard-determining components of labeling:**

3-aminomethyl-3,5,5-trimethylcyclohexylamine

4-tert-butylphenol

Polyoxypropylenediamine

1,6-Hexanediamine, 2,2,4 (or 2,4,4)-trimethyl-

m-phenylenebis(methylamine)

**· Hazard statements**
*Harmful if swallowed.**Causes severe skin burns and eye damage.**May cause an allergic skin reaction.**Suspected of damaging fertility or the unborn child.**Harmful to aquatic life.**Toxic to aquatic life with long lasting effects.*
**· Precautionary statements**
*Do not breathe dusts or mists.**Wear protective gloves/protective clothing/eye protection/face protection.*

(Contd. on page 12)



BUILDING TRUST



## Safety Data Sheet

acc. to OSHA HCS

Printing date 05/07/2018

Reviewed on 05/10/2016

**Trade name: ProInfusion Med Hardener**

(Contd. of page 11)

*If swallowed: Call a poison center/doctor if you feel unwell.*

*If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.*

*IF INHALED: Remove person to fresh air and keep comfortable for breathing.*

*If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*

*Immediately call a poison center/doctor.*

*Specific treatment (see on this label).*

*Store locked up.*

*Dispose of contents/container in accordance with local/regional/national/international regulations.*

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 16 Other information

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

· **Date of preparation / last revision** 05/07/2018 / 5

· **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)*

*IMDG: International Maritime Code for Dangerous Goods*

*DOT: US Department of Transportation*

*IATA: International Air Transport Association*

*ACGIH: American Conference of Governmental Industrial Hygienists*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

*ELINCS: European List of Notified Chemical Substances*

*CAS: Chemical Abstracts Service (division of the American Chemical Society)*

*NFPA: National Fire Protection Association (USA)*

*HMIS: Hazardous Materials Identification System (USA)*

*VOC: Volatile Organic Compounds (USA, EU)*

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

*PBT: Persistent, Bioaccumulative and Toxic*

*vPvB: very Persistent and very Bioaccumulative*

*NIOSH: National Institute for Occupational Safety*

*OSHA: Occupational Safety & Health*

*TLV: Threshold Limit Value*

*PEL: Permissible Exposure Limit*

*REL: Recommended Exposure Limit*

*Acute Tox. 4: Acute toxicity – Category 4*

*Skin Corr. 1A: Skin corrosion/irritation – Category 1A*

*Eye Dam. 1: Serious eye damage/eye irritation – Category 1*

*Skin Sens. 1: Skin sensitisation – Category 1*

*Repr. 2: Reproductive toxicity – Category 2*

*Aquatic Acute 3: Hazardous to the aquatic environment - acute aquatic hazard – Category 3*

*Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2*