

# SAFETY DATA SHEET

**Thermo**  
SCIENTIFIC

TCEP.HCl

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

### 1.1 Product identifier

**Product name** : TCEP.HCl  
**EC number** : Not available.  
**CAS number** : 51805-45-9  
**Product code** : 0020490 0020490B 0020491 1900154 1901148  
**SDS #** : 1003  
**Product description** : Not available.  
**Product type** : Powder.  
**Other means of identification** : Tris[2-carboxyethyl]phosphine hydrochloride; TCEP-HCl; Propanoic acid, 3,3',3''-phosphinidynetris-, hydrochloride  
**Chemical formula** : C<sub>9</sub> H<sub>16</sub> O<sub>6</sub> P Cl

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

Not applicable.

### 1.3 Details of the supplier of the safety data sheet

#### National contact

Thermo Fisher Scientific Europe  
Perbio Science  
Industriezone III  
Industrielaan 27  
9320 Erembodegem Belgium

#### Manufacturer

Thermo Fisher Scientific  
Pierce Biotechnology  
P.O. Box 117  
Rockford, IL 61105  
United States  
815.968.0747 or  
800.874.3723  
7 AM - 5 PM Central Time (GMT -06:00)

**e-mail address of person responsible for this SDS** : QA.Rockford@thermofisher.com

### 1.4 Emergency telephone number

#### National advisory body/Poison Center

**Telephone number** : CHEMTREC: 703-527-3887  
CHEMTREC UK: +(44) 870 8200418  
National Poisons Information Service (UK Only): 0870 600 6266

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Product definition** : Mono-constituent substance

#### Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Skin Corr. 1B, H314

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

#### Classification according to Directive 67/548/EEC [DSD]

Xn; R20/21/22  
C; R34

See Section 16 for the full text of the R phrases or H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

### 2.2 Label elements

**SECTION 2: Hazards identification****Hazard pictograms**

:

**Signal word**

: Danger

**Hazard statements**

: Causes severe skin burns and eye damage.

**Precautionary statements****Prevention**

: Wear protective gloves. Wear eye or face protection. Wear protective clothing. Do not breathe dust or mist.

**Response**

: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or physician. IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Immediately call a POISON CENTER or physician. IF IN EYES: Immediately call a POISON CENTER or physician.

**Storage**

: Store locked up.

**Disposal**

: Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Hazardous ingredients**

: Propanoic acid, 3,3',3"-phosphinidynetris-, hydrochloride

**Supplemental label elements**

: Not applicable.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles**

: Not applicable.

**2.3 Other hazards****Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII**

: No.

P: Not available. B: Not available. T: No.

**Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII**

: Not available.

**Other hazards which do not result in classification**

: None known.

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

: Mono-constituent substance

Product/ingredient name	Identifiers	%	<u>Classification</u>		Type
			67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	
Propanoic acid, 3,3',3"-phosphinidynetris-, hydrochloride	CAS: 51805-45-9	98 - 100	Xn; R20/21/22 C; R34  See Section 16 for the full text of the R-phrases declared above.	Skin Corr. 1B, H314  See Section 16 for the full text of the H-statements declared above.	[A]

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

TCEP.HCl

## SECTION 3: Composition/information on ingredients

Type

[A] Constituent

[B] Impurity

[C] Stabilizing additive

Occupational exposure limits, if available, are listed in Section 8.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

- |                                   |  |
|-----------------------------------|--|
| <b>Eye contact</b>                | : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.   |
| <b>Inhalation</b>                 | : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.  |
| <b>Skin contact</b>               | : Get medical attention immediately. Call a poison center or physician. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.   |
| <b>Ingestion</b>                  | : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. |
| <b>Protection of first-aiders</b> | : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.  |

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

#### Potential acute health effects

- |                     |   |
|---------------------|---|
| <b>Eye contact</b>  | : Causes serious eye damage.  |
| <b>Inhalation</b>   | : May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system. |
| <b>Skin contact</b> | : Causes severe burns.  |
| <b>Ingestion</b>    | : May cause burns to mouth, throat and stomach.   |

#### Over-exposure signs/symptoms

- |                    |   |
|--------------------|---|
| <b>Eye contact</b> | : Adverse symptoms may include the following:<br>pain<br>watering<br>redness              |
| <b>Inhalation</b>  | : Adverse symptoms may include the following:<br>respiratory tract irritation<br>coughing |

## SECTION 4: First aid measures

- Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur
- Ingestion** : Adverse symptoms may include the following:  
stomach pains

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

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media** : Use dry chemical powder.
- Unsuitable extinguishing media** : Do not use water jet.

### 5.2 Special hazards arising from the substance or mixture

- Hazards from the substance or mixture** : Fine dust clouds may form explosive mixtures with air.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
phosphorus oxides  
halogenated compounds

### 5.3 Advice for firefighters

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe dust. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

### 6.2 Environmental precautions

- : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### 6.3 Methods and materials for containment and cleaning up

## SECTION 6: Accidental release measures

- Small spill** : Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Avoid dust generation. Using a vacuum with HEPA filter will reduce dust dispersal. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Avoid creating dusty conditions and prevent wind dispersal. Dispose of via a licensed waste disposal contractor.
- 6.4 Reference to other sections** : See Section 1 for emergency contact information.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 13 for additional waste treatment information.

## SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 7.1 Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe dust. Do not ingest. Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Prevent dust accumulation. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Electrical equipment and lighting should be protected to appropriate standards to prevent dust coming into contact with hot surfaces, sparks or other ignition sources. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

### 7.2 Conditions for safe storage, including any incompatibilities

Store between the following temperatures: 20 to 25°C (68 to 77°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

### 7.3 Specific end use(s)

- Recommendations** : Not available.
- Industrial sector specific solutions** : Not available.

## SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker or exposure or environmental releases.

### 8.1 Control parameters

#### Occupational exposure limits

No exposure limit value known.

**SECTION 8: Exposure controls/personal protection**

**Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

**DNELs/DMELs**

No DNELs/DMELs available.

**PNECs**

No PNECs available.

**8.2 Exposure controls**

**Appropriate engineering controls** : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

**Individual protection measures**

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

**Skin protection**

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** : Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.



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## SECTION 8: Exposure controls/personal protection

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

<b>Physical state</b>	: Solid. [Crystalline powder.]
<b>Color</b>	: White.
<b>Odor</b>	: Odorless.
<b>Odor threshold</b>	: Not available.
<b>pH</b>	: 1.8 [Conc. (% w/w): 5%]
<b>Melting point/freezing point</b>	: 175 to 179°C
<b>Initial boiling point and boiling range</b>	: Not available.
<b>Flash point</b>	: [Product does not sustain combustion.]
<b>Evaporation rate</b>	: Not available.
<b>Flammability (solid, gas)</b>	: Slightly flammable in the presence of the following materials or conditions: heat. Evolves toxic fumes when heated to decomposition.
<b>Burning time</b>	: Not available.
<b>Burning rate</b>	: Not available.
<b>Upper/lower flammability or explosive limits</b>	: Not available.
<b>Vapor pressure</b>	: Not available.
<b>Vapor density</b>	: Not available.
<b>Relative density</b>	: Not available.
<b>Solubility(ies)</b>	: Soluble in the following materials: cold water and hot water. Very slightly soluble in the following materials: methanol.
<b>Solubility in water</b>	: 310 g/l
<b>Partition coefficient: n-octanol/ water</b>	: Not available.
<b>Auto-ignition temperature</b>	: Not applicable.
<b>Decomposition temperature</b>	: Not available.
<b>Viscosity</b>	: Not available.
<b>Explosive properties</b>	: Not available.
<b>Oxidizing properties</b>	: Not available.

### 9.2 Other information

No additional information.

## SECTION 10: Stability and reactivity

<b>10.1 Reactivity</b>	: No specific test data related to reactivity available for this product or its ingredients.
<b>10.2 Chemical stability</b>	: The product is stable.
<b>10.3 Possibility of hazardous reactions</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.

**SECTION 10: Stability and reactivity**

**10.4 Conditions to avoid** : Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Prevent dust accumulation.

**10.5 Incompatible materials** : Reactive or incompatible with the following materials:  
oxidizing materials

**10.6 Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

**SECTION 11: Toxicological information****11.1 Information on toxicological effects**Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Propanoic acid, 3,3',3''-phosphinidynetris-, hydrochloride	LD50 Dermal	Rabbit	3000 mg/kg	-
	LD50 Intraperitoneal	Rat	>1024 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-

**Conclusion/Summary** : Not available.

Irritation/Corrosion

**Conclusion/Summary** : Not available.

Sensitization

**Conclusion/Summary** : Not available.

Mutagenicity

**Conclusion/Summary** : Not available.

Carcinogenicity

**Conclusion/Summary** : Not available.

Reproductive toxicity

**Conclusion/Summary** : Not available.

Teratogenicity

**Conclusion/Summary** : Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

**Information on the likely routes of exposure** : Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

**Eye contact** : Causes serious eye damage.

**Inhalation** : May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system.

**Skin contact** : Causes severe burns.

**Ingestion** : May cause burns to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics



## SECTION 11: Toxicological information

<b>Eye contact</b>	: Adverse symptoms may include the following: pain watering redness
<b>Inhalation</b>	: Adverse symptoms may include the following: respiratory tract irritation coughing
<b>Skin contact</b>	: Adverse symptoms may include the following: pain or irritation redness blistering may occur
<b>Ingestion</b>	: Adverse symptoms may include the following: stomach pains

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

<b>Potential immediate effects</b>	: Not available.
<b>Potential delayed effects</b>	: Not available.

#### Long term exposure

<b>Potential immediate effects</b>	: Not available.
<b>Potential delayed effects</b>	: Not available.

#### Potential chronic health effects

Not available.

<b>Conclusion/Summary</b>	: Prolonged contact can cause severe irritation or even burns. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract. Exposure can cause lung irritation, chest pain and edema, which may be fatal. Exposure can cause nausea, headache and vomiting.
<b>General</b>	: Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.
<b>Carcinogenicity</b>	: No known significant effects or critical hazards.
<b>Mutagenicity</b>	: No known significant effects or critical hazards.
<b>Teratogenicity</b>	: No known significant effects or critical hazards.
<b>Developmental effects</b>	: No known significant effects or critical hazards.
<b>Fertility effects</b>	: No known significant effects or critical hazards.

<b>Other information</b>	: Not available.
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## SECTION 12: Ecological information

### 12.1 Toxicity

<b>Conclusion/Summary</b>	: Not available.
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### 12.2 Persistence and degradability

<b>Conclusion/Summary</b>	: Not available.
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### 12.3 Bioaccumulative potential

Not available.

### 12.4 Mobility in soil

<b>Soil/water partition coefficient (K<sub>oc</sub>)</b>	: Not available.
<b>Mobility</b>	: Not available.

## SECTION 12: Ecological information

### 12.5 Results of PBT and vPvB assessment

**PBT** : No.  
P: Not available. B: Not available. T: No.

**vPvB** : Not available.  
vP: Not available. vB: Not available.

**12.6 Other adverse effects** : No known significant effects or critical hazards.

## SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 13.1 Waste treatment methods

#### Product

**Methods of disposal** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

**Hazardous waste** : Yes.

#### European waste catalogue (EWC)



Waste code	Waste designation
18 01 06*	chemicals consisting of or containing dangerous substances

#### Packaging

**Methods of disposal** : The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

**Special precautions** : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
<b>14.1 UN number</b>	Not available.	Not available.	UN3261	UN3261
<b>14.2 UN proper shipping name</b>	Not available.	Not available.	Corrosive solid, acidic, organic, n.o.s. (Tris (2-Carboxyethyl) Phosphine Hydrochloride)	Corrosive solid, acidic, organic, n.o.s. (Tris (2-Carboxyethyl) Phosphine Hydrochloride)
<b>14.3 Transport hazard class(es)</b>	Not available.	Not available.	8 	8 
<b>14.4 Packing group</b>	-	-	II	II
<b>14.5 Environmental hazards</b>	No.	No.	No.	No.

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**SECTION 14: Transport information**

<b>Additional information</b>	<b>Hazard identification number</b> 80	-	-	-
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**14.6 Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** : Not available.

**SECTION 15: Regulatory information**

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**  
**EU Regulation (EC) No. 1907/2006 (REACH)**

**Annex XIV - List of substances subject to authorization**

**Annex XIV**

None of the components are listed.

**Substances of very high concern**

None of the components are listed.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Not applicable.

**Other EU regulations**

**Europe inventory** : Not determined.

**Seveso II Directive**

This product is not controlled under the Seveso II Directive.

**German hazard class for water** : 3 Appendix No. 2

**15.2 Chemical Safety Assessment** : Not applicable.

**SECTION 16: Other information**

Indicates information that has changed from previously issued version.

**Abbreviations and acronyms** : ATE = Acute Toxicity Estimate  
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]  
DMEL = Derived Minimal Effect Level  
DNEL = Derived No Effect Level  
EUH statement = CLP-specific Hazard statement  
PBT = Persistent, Bioaccumulative and Toxic  
PNEC = Predicted No Effect Concentration  
RRN = REACH Registration Number  
vPvB = Very Persistent and Very Bioaccumulative

**Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]**

<b>Classification</b>	<b>Justification</b>
Skin Corr. 1B, H314	Expert judgment

**SECTION 16: Other information**

<b>Full text of abbreviated H statements</b>	: H314 Causes severe skin burns and eye damage.
<b>Full text of classifications [CLP/GHS]</b>	: Skin Corr. 1B, H314 SKIN CORROSION/IRRITATION - Category 1B
<b>Full text of abbreviated R phrases</b>	: R20/21/22- Harmful by inhalation, in contact with skin and if swallowed. R34- Causes burns.
<b>Full text of classifications [DSD/DPD]</b>	: C - Corrosive Xn - Harmful
<b>Date of printing</b>	: 12/18/2013.
<b>Date of issue/ Date of revision</b>	: 12/18/2013.
<b>Date of previous issue</b>	: 9/13/2013.
<b>Version</b>	: 1.01

**Notice to reader**

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.