

SAFETY DATA SHEET

Section 1 - Identification of Substance or Mixture and Company

Product identify:

Product name: Tris(2-carboxyethyl)phosphine hydrochloride

Synonyms: TCEP

Catalog number: PI-37282

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

Identified uses: Laboratory chemicals, Manufacture of substances

Details of the supplier of the safety data sheet

Company identification: PI Chemicals Ltd.
633 Eshan Road,
Pudong New Area, Shanghai China, 200127

Telephone number: +86-21-58953700

Fax number: +86-21-58953701

E-mail address: info@pipharm.com

Emergency telephone number

Emergency number: +86-21-58953706

Section 2 - Hazards Identification

Classification of the substance or mixture:

Regulation (EC) No 1272/2008

Skin corrosion Category 1B

Label elements

Classification according to (EC) No 1272/2008



Signal word: Danger

Hazard statement(s):

H302: Harmful if swallowed

H314: Causes severe skin burns and eye damage.

H335: May cause respiratory irritation

Precautionary statement(s)

P280: Wear protective gloves/ protective clothing/ eye protection/ face protection.

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 or doctor/ physician.

P342 + P311: IF experiencing respiratory symptoms: call a POISON CENTER or doctor/physician.

Accroding to EU Directive 67/548/EEC or 1999/45/EC.

Symbol(s): Xn Harmful

Risk phrases:

R 34: Causes burns

R 36/37/38: Irritating to eyes, respiratory system and skin

Safety phrases:

S 23: Do not breathe gas/fumes/vapour/spray.

S 26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 27: Take off immediately all contaminated clothing

S 36/37/39: Wear suitable protective clothing, gloves and eye/face protection

HMIS classification:

Health hazard: 3

Chronic health hazard: *

Flammability: 0

Physical hazards 0

NFPA rating:

Health hazard: 3

Fire: 0

Reactivity hazard: 0

Section 3: Composition & Information on Ingredients

Molecular formula: C₉H₁₅O₆P · HCl

Molecular weight: 286.65 g/mol

Component	Concentration
CAS Number: 51805-45-9	98%
EC Number:	

Section 4 - First Aid Measures

Eye: Flush eyes with plenty of water for at least 15 minutes. Get medical aid if symptoms appear.

Skin: Wash skin with plenty of water at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops and persists.

Ingestion: Wash mouth out with water. Get medical aid immediately.

Inhalation: Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical aid.

Section 5 – Fire-Fighting Measures

Extinguishing media: Use water spray, dry chemical, carbon dioxide, or appropriate foam.

Special hazards arising from the substance or mixture: Carbonoxides, Phosphorus oxide, Hydrogen chloride

Advice for firefighters: Wear a self-contained breathing apparatus for firefighting if necessary

Section 6 - Accidental Release Measures

Personal precautions, protective equipment and emergency procedures:

Use proper personal protective equipment as indicated in Section 8.

Environmental precautions: Prevent further spillage or leakage when safe and capable

Methods and materials for containment and cleaning up:

Vacuum or sweep up material and keep in a suitable closed container for disposal. Do not flush with water.

Section 7 - Handling and Storage

Precautions for safe handling:

Provide appropriate exhaust ventilation at places where dust is formed. Avoid contact with skin, eyes and clothes. Avoid inhalation of vapors and spray mist.

Conditions for safe storage, including any incompatibilities:

Store in a dry and well-ventilated place. Keep container tightly closed. Store at 2 - 8 °C . Avoid light.

Section 8 - Exposure Controls/Personal Protection

Control parameters:

Contains no materials with occupational exposure limits.

Exposure controls:

Ensure well ventilation, good industrial hygiene and safety practice.

Personal protective equipment

Eye/Face protection:

Wear appropriate protective eyeglasses under the standards such as EN166(EU) or type ABEK(EN14387).

Skin/Body protection:

Wear appropriate protective gloves which have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN374 derived from it to prevent skin exposure. Dispose of contaminated gloves in accordance with applicable laws. Wash and dry hands.

Wear appropriate protective clothing to prevent skin exposure.

Respiratory protection:

Use an approved respirator and components under appropriate government standards such as NIOSH(US) or CEN(EU) if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9- Physical and Chemical Properties

<i>Physical state:</i>	Crystal
<i>Color:</i>	White
<i>Odour:</i>	Weak odor
<i>Melting point/freezing point:</i>	170-180°C
<i>Initial boiling point and boiling range:</i>	519.4 °C at 760 mmHg (Predicted)
<i>Flash point:</i>	No data available
<i>Evaporation rate:</i>	No data available
<i>Flammability(solid, gas):</i>	No data available
<i>Upper/lower flammability or explosive limits:</i>	No data available
<i>Vapour pressure:</i>	No data available
<i>Vapour density:</i>	No data available
<i>Relative density:</i>	1.041 g/mL at 25 °C
<i>Solubility:</i>	Soluble in water
<i>Partition coefficient: n-octanol/water:</i>	No data available
<i>Auto-ignition temperature:</i>	No data available
<i>Decomposition temperature:</i>	No data available
<i>Viscosity:</i>	No data available

Section 10-Stability and Reactivity

<i>Reactivity:</i>	No data available
<i>Chemical stability:</i>	Stable under recommended temperatures and pressures.
<i>Possibility of hazardous reactions:</i>	No data available
<i>Conditions to avoid:</i>	Light sensitive.
<i>Incompatible materials:</i>	Strong oxidizing agents
<i>Hazard Decomposition products:</i>	Carbon oxides, Phosphorus oxide, Hydrogen chloride

Section 11 - Toxicological Information

<i>Acute toxicity:</i>	
Tris(2-carboxyethyl)phosphine hydrochloride	
LD50 Oral - rat - 3,500 mg/kg	LD50 Dermal - rat - > 3,000 mg/kg
<i>Skin corrosion/irritation:</i>	No data available
<i>Serious eye damage/eye irritation:</i>	No data available
<i>Respiratory or skin sensitization:</i>	May cause allergic reactions.
<i>Germ cell mutagenicity:</i>	No data available

Carcinogenicity:

Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Reproductive toxicity: No data available

Specific target organ toxicity (STOT)-single exposure: No data available

Specific target organ toxicity (STOT)-repeated exposure: No data available

Aspiration hazard: No data available

Additional information: RTECS#: not available

Section 12 – Ecological Information

Toxicity: No data available

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

Results of PBT and vPvB assessment: No data available

Other adverse effects: No data available

Section 13 - Disposal Consideration

Waste treatment methods

Product: Dispose of in accordance with federal, state and local environmental regulations

Contaminated packaging: Dispose of as unused product

Section 14 - Transport Information

IATA

UN number: 3261

Hazard class: 8

Packing group: II

Proper shipping name:

CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (Tris(2-carboxyethyl)phosphine hydrochloride) hydrochloride)

IMDG

UN number: 3261

Hazard class: 8

Packing group: II

Proper shipping name:

CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (Tris(2-carboxyethyl)phosphine hydrochloride)

RID/ADR

UN number: 3261

Hazard class: 8

Packing group: II

Proper shipping name:

CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (Tris(2-carboxyethyl)phosphine hydrochloride)

DOT(US)

UN number: 3261

Hazard class: 8

Packing group: II

Proper shipping name:

CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (Tris(2-carboxyethyl)phosphine hydrochloride)

Section 15 - Regulatory Information

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

No data available

Chemical safety assessment: No data available

Section 16 – Other Information

SDS creation date: Nov 19, 2013

Update: Oct 27, 2014

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