

## SAFETY DATA SHEET

Date Revised: February 21, 2013

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** TCEP (Tris-(2-carboxyethyl)phosphine hydrochloride)  
**Catalog Number:** 91049  
**Unit Size:** 1g  
**Manufacturer/Supplier:** Biotium, Inc.  
46117 Landing Parkway, Fremont, CA 94538, USA  
Phone: 1-510-265-1027, Fax: 1-510-265-1352  
Web: <http://www.biotium.com>

## 2. HAZARDS IDENTIFICATION

**Classification according to Regulation (EC) No 1272/2008[CLP]**

Acute toxicity, Dermal (Category 5), H313  
Acute toxicity, Oral (Category 5), H303  
Skin corrosion (Category 1B), H314  
Serious eye damage (Category 1), H318

**Classification according to Directive 1999/45/EC**

R-phrases  
R34 causes burns

**S-phrase(s)**

S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice  
S45 - In case of accident or if you feel unwell, seek medical advice immediately (show label where possible)  
S36/39 - Wear suitable protective clothing and eye/face protection.

**Labelling according to Regulation (EC) No 1272/2008[CLP]****Hazard pictogram**

**Signal word** Danger

**Hazard statement(s)**

H303 + H313 May be harmful if swallowed or in contact with skin.

H314 Causes severe skin burns and eye damage.

**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.

**HMIS Classification**

Health hazard: 0

Flammability: 0

Physical hazards: 0

**NFPA Rating**

Health hazard: 0

Fire: 0

Reactivity Hazard: 0

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**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Name	CAS No.	EC No.	Index No.	Weight %	Classification according to 67/548/EEC	Classification according to regulation (EC)No1278/2008
(Tris-(2-carboxyethyl)phosphine hydrochloride)	51805-45-9	204-118-5	-	90-100%	R34	Danger, H303,H313, H314

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**4. FIRST- AID MEASURES****General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

**If inhaled**

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In case of skin contact**

Wash off with soap and plenty of water. Consult a physician.

**In case of eye contact**

Flush eyes with water as a precaution.

**If swallowed**

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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**5. FIREFIGHTING MEASURES****Suitable extinguishing media**

carbon dioxide, dry chemical extinguishers, foam extinguishers or water.

**Special protective equipment for firefighters**

Wear self contained breathing apparatus for firefighting if necessary.

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**6. ACCIDENTAL RELEASE MEASURES****Personal precautions**

Avoid breathing vapors, mist or gas. Remove all sources of ignition.

**Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

**Methods and materials for containment and cleaning up**

Contain spillage. Soak up spilled substance with inert absorbent material. . Keep in suitable, closed containers for disposal.

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## 7. HANDLING AND STORAGE

### Precautions for safe handling

Avoid inhalation of vapor or mist.  
Avoid direct contact with substance.

### Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place.  
Store at 4°C.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Components with workplace control parameters

Substance TCEP  
CAS no. 51805-45-9  
Control parameter No information available

### Personal protective equipment

#### Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

#### Respiratory protection

Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Eye protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

Chemical Name	TCEP
Appearance	solid
Odor	No information available
Odor threshold	No information available
pH	No information available
Melting point/freezing point	No information available

Boiling point	No information available
Flash point	No information available
Evaporate rate	No information available
Flammability	No information available
Explosive limits	No information available
Vapor pressure	No information available
Vapor density	No information available
Relative density	No information available
Solubility	No information available
Partition coefficient:n-octanol/water	No information available
Auto-ignition temperature	No information available
Decomposition temperature	No information available
Viscosity	No information available
Explosive properties	No information available
Oxidising properties	No information available

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## 10. STABILITY AND REACTIVITY

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

No data available

### Conditions to avoid

Heat, flames and sparks.

### Materials to avoid

No data available

### Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

Other decomposition products - no data available

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## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

**Oral LD50** None

**Inhalation LC50** None

**Dermal LD50** None

**Other information on acute toxicity** no data available

**Skin corrosion/irritation** no data available

**Serious eye damage/eye irritation** no data available

**Respiratory or skin sensitization** no data available

**Germ cell mutagenicity** no data available

### Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

**NTP:** No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

**OSHA:** No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity** no data available

**Specific target organ toxicity - single exposure (Globally Harmonized System)**

no data available

**Specific target organ toxicity - repeated exposure (Globally Harmonized System)**

no data available

**Aspiration hazard**

no data available

**Potential health effects**

Inhalation May be harmful if inhaled. May cause respiratory tract irritation.

Ingestion May be harmful if swallowed.

Skin May be harmful if absorbed through skin. May cause skin irritation.

Eyes May cause eye irritation.

**Additional Information**

RTECS: None

## 12. ECOLOGICAL INFORMATION

**Toxicity** no information available

**Persistence and degradability** no information available

**Biodegradation** no information available

**Mobility in soil** no information available

**Results of PBT and vPvB assessment** no information available

**Other adverse effects** no information available

**Additional information** no information available

## 13. DISPOSAL CONSIDERATIONS

Do not dispose product directly into sewage. Consult local state or national regulation for proper disposal.

## 14. TRANSPORT INFORMATION

**IATA, IMDG, DOT(US)** not dangerous good during transportation

Hazards Class:	CLASS 8: Corrosive solid. Slightly corrosive.
Subsidiary Class:	No information available
Identification Number:	UN3261
Packing Group:	II
Proper Shipping Name (Technical Name):	Corrosive solid, acidic, organic, n.o.s.*

## 15. REGULATION INFORMATION

**US Federal Regulations**

Us Toxic Substances Control Act(TSCA): Not listed

SARA 302: No chemicals were found .  
SARA 313: No chemicals were found.  
SARA 311/312 Hazards : No chemicals were found.

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## 16. OTHER INFORMATION

Classification according to Regulation (EC) Nr. 1272/2008

Prepared by: Regulatory Department  
Biotium Inc.

Version no. 2

Reason for revision Application of CLP labeling and corresponding requirements

The information provided above is believed to be correct to our best knowledge, but does not purport to be all inclusive, and shall be used only as a guide. This material is sold for research purposes only and is not required to appear on the TSCA inventory. It is not intended for food, drug, household, agricultural or cosmetic use. Its use must be supervised by a technically qualified individual experienced in handling potentially hazardous chemicals. Biotium shall not be held liable for any damage resulting from handling or contact with the above product.