

Safety Data Sheet

According to Regulation (EC) No 1907/2006

Tris(2-Chloroethyl) Phosphate (TCEP)

Version 1.0

Issue date: 08/06/2016

Revision date: 08/06/2016

SDS Record Number: CSSS-TCO-010-120113

Section 1 Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier:

Identification on the label/Trade name: Tris(2-Chloroethyl) Phosphate (TCEP)

Additional identification: -

Identification of the product: CAS# 115-96-8 EC# 204-118-5

Index Number: 015-102-00-0

REACH registration No.: -

1.2 Relevant identified uses of the substance and uses advised against:

1.2.1 Identified uses:

Not available.

1.2.2 Uses advised against:

Not available.

1.3 Details of the supplier of the safety data sheet:

Supplier(Only representative): -

Supplier(Manufacturer): ZHANGJIAGANG FORTUNE CHEMICAL CO., LTD

Address: RM 309, BLDG#8, NEW ORIENTAL PLAZA, ZHANGJIAGANG CITY, JIANGSU PROVINCE, CHINA 215600

Contact person(E-mail): sales@fortunechemtech.com

Telephone: +86-512-58300049

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1.4 Emergency telephone Number:

+86-512-58300049

Available outside office hours? YES NO

Section 2 Hazards Identification

2.1 Classification of the substance/mixture:

2.1.1 Classification:

The substance is classified as following according to REGULATION (EC) No 1272/2008:

REGULATION (EC) No 1272/2008	
Hazard classes/Hazard categories	Hazard statement
Acute Tox. 4	H302
Carc. 2	H351
Repr. 1B	H360
Aquatic Chronic 2	H411

For full text of H- phrases: see section 2.2.

2.2 label elements:

Product name: Tris(2-Chloroethyl) Phosphate (TCEP)

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Hazard Pictograms:**Signal Word(S):**

Danger

Hazard Statement:

H302: Harmful if swallowed

H351: Suspected of causing cancer

H360: May damage fertility or the unborn child

H411: Toxic to aquatic life with long lasting effects

Precautionary statement:

P201: Obtain special instructions before use.

P202: Do not handle until all safety precautions have been read and understood.

P264: Wash hands thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.

P273: Avoid release to the environment.

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

P301 + P312: IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

P308 + P313: IF exposed or concerned: Get medical advice/attention.

P330: Rinse mouth.

P391: Collect spillage.

P405: Store locked up.

P501: Dispose of contents/container in accordance with local regulation.

2.3 Other hazards:

Not applicable.

Section 3 Composition/information on ingredients**Substance/Mixture:**

Substance

Ingredient(s):

Chemical Name	Registration No.	CAS No.	EC No.	Concentration
Tris(2-Chloroethyl) Phosphate	N/A	115-96-8	204-118-5	97%

Section 4 First aid measures**4.1 Description of first aid measures:**

In all cases of doubt, or when symptoms persist, seek medical attention.

4.1.1 In case of inhalation:

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

4.1.2 In case of skin contact:

Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

4.1.3 In case of eyes contact:

Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

4.1.4 In case of ingestion:

Never give anything by mouth to an unconscious person. Get medical aid. Do NOT induce vomiting. If conscious and alert,

rinse mouth and drink 2-4 cupfuls of milk or water.

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

Harmful if swallowed. Suspected of causing cancer. May damage fertility or the unborn child.

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

Treat symptomatically and supportively.

Section 5 Fire-Fighting measures

5.1 Extinguishing media:

Suitable extinguishing media:

Use water spray, dry chemical, carbon dioxide, or appropriate foam. Cool containers with flooding quantities of water until well after fire is out.

Unsuitable extinguishing media:

Not available.

5.2 Special hazards arising from the substance or mixture

During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. Containers may explode when heated. In case of fire, the following can be released: Hydrogen chloride, carbon monoxide, oxides of phosphorus.

5.3 Advice for firefighters:

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.

Section 6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

6.1.1 For non-emergency personnel:

Remove ignition sources. Provide adequate ventilation. Avoid inhalation vapor. Avoid skin and eye contact. For personal protection see Section 8.

6.1.2 For emergency responders:

Wear an appropriate NIOSH/MSHA approved respirator if vapor is generated.

6.2 Environmental Precautions:

Avoid disposing into drainage/sewer system or directly into the aquatic environment.

6.3 Methods for Containment and Cleaning up:

Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container.

6.4 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 information on disposal.

Section 7 Handling and storage

7.1 Precautions for safe handling:

7.1.1 Protective measures:

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation. Use with adequate ventilation. Wash clothing before reuse.

7.1.2 Advice on general occupational hygiene:

Do not eat, drink and smoke in work areas. Wash hands after use. Remove contaminated clothing and protective equipment before entering eating areas.

7.2 Conditions for safe storage, including any incompatibilities:

Keep container closed when not in use. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

7.3 Specific end use(s):

Not applicable.

Section 8 Exposure Controls/Personal Protection

8.1 Control parameters:

- 8.1.1 Occupational exposure limits: Not available.
- 8.1.2 Additional exposure limits under the conditions of use: Not available.
- 8.1.3 DNEL/DMEL and PNEC-Values: Not available.

8.2 Exposure controls:

8.2.1 Appropriate engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

8.2.2 Individual protection measures, such as personal protective equipment:

Eye/face protection: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Hand protection: Wear appropriate gloves to prevent skin exposure.

Body protection: Wear appropriate clothing to prevent skin exposure.

Respiratory protection: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Thermal hazards: Wear suitable protective clothing to prevent heat.

8.2.3 Environmental exposure controls: Avoid discharge into the environment.
According to local regulations, Federal and official regulations.

Section 9 Physical and chemical properties

9.1 Information on basic physical and chemical properties:

Appearance:	Oily liquid
Colour:	Clear very light yellow
Odour:	Not available
Odour threshold:	Not available
pH:	Not available
Melting point/range (°C):	-51°C
Boiling point/range (°C):	330°C(760.00mm Hg)
Flash point (°C):	232 °C
Evaporation rate:	Not available
Flammability limit - lower (%):	Not available
Flammability (solid, gas):	Not available
Ignition temperature (°C):	Not available
Upper/lower flammability/explosive limits:	Not available
Vapour pressure:	ca.0.061 mm Hg(ca. 25 °C)
Vapour density:	9.8
Density:	1.3900g/cm ³
Bulk density (kg/m³):	Not available
Water solubility:	7943 mg/L

n-Octanol/Water (log Po/w):	1.7
Auto-ignition temperature:	480°C
Decomposition temperature:	150°C
Viscosity:	38 Cp(25 °C)
Explosive properties:	Not explosive
Oxidising properties:	Not available
Molecular Formula:	C ₆ H ₁₂ Cl ₃ O ₄ P
Molecular Weight:	285.48

9.2. Other information:

Fat solubility(solvent– oil to be specified) etc:	Not available
Surface tension:	Not available
Dissociation constant in water(pKa):	Not available
Oxidation-reduction Potential:	Not available

Section 10 Stability and reactivity

10.1 Reactivity:	The substance is stable under normal storage and handling conditions.
10.2 Chemical stability:	Stable at room temperature in closed containers under normal storage and handling conditions.
10.3 Possibility of hazardous reactions:	No dangerous reactions known.
10.4 Conditions to avoid:	Incompatible materials, ignition sources, excess heat, strong oxidants.
10.5 Incompatible materials:	Strong oxidizing agents.
10.6 Hazardous decomposition products:	Hydrogen chloride, carbon monoxide, oxides of phosphorus, irritating and toxic fumes and gases, carbon dioxide.

Section 11 Toxicological information

11.1 Information on toxicological effects:	
Acute toxicity:	
LD50(Oral, Rat):	1230 mg/kg
LD50(Dermal, Rabbit):	Not available
LC50(Inhalation, Rat):	Not available
Skin corrosion/Irritation:	Not classified
Serious eye damage/irritation:	Not classified
Respiratory or skin sensitization:	Not classified
Germ cell mutagenicity:	Not classified
Carcinogenicity:	Suspected of causing cancer.
Reproductive toxicity:	May damage fertility or the unborn child.
STOT- single exposure:	Not classified
STOT-repeated exposure:	Not classified
Aspiration hazard:	Not classified

Section 12 Ecological information

12.1 Toxicity:

Product name: Tris(2-Chloroethyl) Phosphate (TCEP)
Version #: 1.0 Issue` date: 08-06-2016. Revision date: 08-06-2016.

Acute toxicity		Time	Species	Method	Evaluation	Remarks
LC50	N/A	96h	Fish	OECD 203	N/A	N/A
EC50	ca. 170 mg/L	48h	Daphnia	OECD 202	N/A	N/A
EC50	ca. 450 mg/L	72h	Algae	OECD 201	N/A	N/A

- 12.2 Persistence and degradability:** Not readily biodegradable.
- 12.3 Bioaccumulative potential:** Not available.
- 12.4 Mobility in soil:** Not available.
- 12.5 Results of PBT&vPvB assessment:** The substance is not PBT / vPvB.
- 12.6 Other adverse effects:** Toxic to aquatic life with long lasting effects.

Section 13 Disposal considerations

- 13.1 Waste treatment methods:** Due to the high risk of contamination recycling/recovery is not recommended. Waste disposal in accordance with regulations (most probably controlled incineration).

Section 14 Transport information

	Land transport(ADR/RID)	Sea transport (IMDG)	Air transport (ICAO/IATA)
UN-Number	3082	3082	3082
UN Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Tris(2-Chloroethyl) Phosphate)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Tris(2-Chloroethyl) Phosphate)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Tris(2-Chloroethyl) Phosphate)
Transport hazard Class	9	9	9
Packaging group	III	III	III
Environmental hazards	Yes	Yes	Yes
Special precautions for user	See section 2.2	See section 2.2	See section 2.2
Transport in bulk according to Annex II of Marpol and the IBC Code	IBC03	IBC03	IBC03

Section 15 Regulation information

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

- Relevant information regarding authorization:** Not applicable.
- Relevant information regarding restriction:** Not applicable.
- Other EU regulations:** Employment restrictions concerning young person must be observed. For use only by technically qualified individuals.
- Other National regulations:** Not applicable

15.2 Chemical Safety Assessment has been carried out?

YES NO

Section 16 Other information

16.1 Indication of changes:

Version 1.0 Amended by (EU) 2015/830

16.2 Training instructions:

Not applicable.

16.3 Further information:

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

16.4 Notice to reader:

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgment of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

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