

上海艾瑞化工有限公司
SHANGHAI IROYAL CHEMICAL CO., LTD

MATERIAL SAFETY DATA SHEET

SECTION I - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MSDS Name: ROYAL TCEP

Synonyms: TCEP; Tris-(2-Chloroethyl) Phosphate

Manufacturer: SHANGHAI IROYAL CHEMICAL CO., LTD

R239, Building 3, No.787 Kangqiao Road, Pudong district, Shanghai, China 201315

Tel: +86 21-58790553 Fax: +86 21-58790556

E-mail: sales@irochem.com Http://www.irochem.com

SECTION II - COMPOSITION/INFORMATION

CAS#	Chemical Name	Percent	EINECS/ELINCS
115-96-8	Tris(2-Chloroethyl) Phosphate	97	204-118-5

SECTION III - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Appearance: clear very light yellow liquid. **Warning!** Causes eye and skin irritation. May be harmful if swallowed. May cause respiratory and digestive tract irritation. **Target Organs:** None.

Potential Health Effects Eye: Causes eye irritation. **Skin:** Causes skin irritation. **Ingestion:** May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May be harmful if swallowed. **Inhalation:** May cause respiratory tract irritation. **Chronic:** No information found.

SECTION IV - FIRST AID MEASURES

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

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

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.

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.

Notes to Physician: Treat symptomatically and supportively.

SECTION V - FIRE FIGHTING MEASURES

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers

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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.

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

Flash Point: 150 deg C (302.00 deg F)

Autoignition Temperature: 480 deg C (896.00 deg F)

Explosion Limits, Lower:Not available.

Upper: Not available.

SECTION VI - ACCIDENTAL RELEASE MEASURES

General Information: Use proper personal protective equipment as indicated in Section 8. **Spills/Leaks:** Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. Provide ventilation.

SECTION VII - HANDLING AND STORAGE

Handling: 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.

Storage: 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.

SECTION VIII - EXPOSURE CONTROLS/PERSONAL PROTECTION

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.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Tris(2-Chloroethyl) Phosphate	none listed	none listed	none listed

Personal Protective Equipment Eyes: 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.

Skin: Wear appropriate gloves to prevent skin exposure.

Clothing: Wear appropriate clothing to prevent skin exposure.

Respirators: 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.

SECTION IX - PHYSICAL & CHEMICAL PROPERTIES

Physical State: Liquid

Appearance: clear very light yellow

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Odor: None reported.

pH: Not available.

Vapor Pressure: 0.5 mmHg @ 145

Vapor Density: 9.8

Evaporation Rate: Not available.

Viscosity: 38 cP 25.00 deg C

Boiling Point: 330 deg C @ 760.00mm Hg

Freezing/Melting Point: -51 deg C

Decomposition Temperature: 150 deg C

Solubility: 7 g/l (20 c)

Specific Gravity/Density: 1.3900g/cm³

Molecular Formula: C₆H₁₂Cl₃O₄P

Molecular Weight: 285.48

SECTION X - STABILITY AND REACTIVITY

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions.

Conditions to Avoid: Incompatible materials, ignition sources, excess heat, strong oxidants.

Incompatibilities with Other Materials: Strong oxidizing agents.

Hazardous Decomposition Products: Hydrogen chloride, carbon monoxide, oxides of phosphorus, irritating and toxic fumes and gases, carbon dioxide.

Hazardous Polymerization: Has not been reported.

SECTION XI - TOXICOLOGICAL INFORMATION

RTECS#: CAS# 115-96-8: KK2450000

LD50/LC50: CAS# 115-96-8: Oral, mouse: LD50 = 1866 mg/kg; Oral, rat: LD50 = 1230 mg/kg;<BR.

Carcinogenicity: CAS# 115-96-8:

California: carcinogen, initial date 4/1/92

Epidemiology: No information available.

Teratogenicity: No information available.

Reproductive Effects: No information available.

Neurotoxicity: No information available.

Mutagenicity: No information available.

Other Studies: No data available.

SECTION XII - ECOLOGICAL INFORMATION

No information available.

SECTION XIII - DISPOSAL CONSIDERATIONS

Product Please refer to your specific industry in the European Waste Catalogue.

Contaminated packaging According to local regulations.

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SECTION XIV - TRANSPORT INFORMATION

IATA: NO AVAILABLE INFORMATION

IMDG: NO AVAILABLE INFORMATION

SECTION XV - REGULATORY INFORMATION

S(afety) phrase(s) NO AVAILABLE INFORMATION

SECTION XVI - OTHER INFORMATION

MSDS Creation Date: 12/11/1998 Revision Date: 3/18/2012

The information contained herein is based on the present state of our knowledge and does not therefore guarantee certain properties. Recipients of our product must take responsibility for observing existing laws and regulations.

The data given here is based on current knowledge and experience. The purpose of this safety data sheet is to describe the products in terms of their safety requirements. The data does not signify any guarantee with regard to the product's properties.

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