

MATERIAL SAFETY DATA SHEET


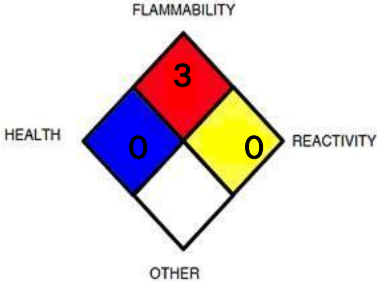
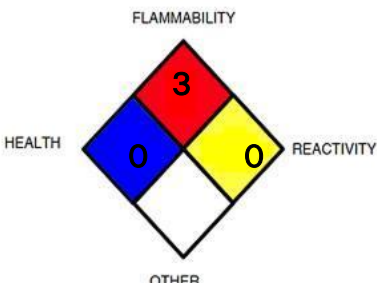
Section 1: Product & Company Identification

Product Name:	TCEP · HCL
Product #:	T-1180
Synonyms:	--
Supplier:	A.G. Scientific, Inc. 6450 Lusk Blvd E102 San Diego CA 92121 Tele# + 858-452-9925 Fax# + 858-452-9926
Emergency Tele#:	ChemTel, Tele# in USA 1-800-255-3924, International 1-813-248-0585

Section 2: Composition / Information on Ingredients

Component	CAS#	EC #	Concentration	HCS Classification
Tris(2-carboxyethyl)phosphine hydrochloride	51805-45-9	629-759-1	100.0%	Skin Corr. 1B; H314

Section 3: Hazards Identification

Symbols	
HMIS Classification	<p>FLAMMABILITY</p>  <p>HEALTH REACTIVITY</p> <p>OTHER</p>
NFPA Classification	<p>FLAMMABILITY</p>  <p>HEALTH REACTIVITY</p> <p>OTHER</p>

Section 4: First Aid Measures

General Overview:	Avoid contact, wear suitable protective clothing, gloves and eye/face protection.
Inhalation:	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
Skin:	Immediately wash skin copiously with soap and water. Take victim immediately to hospital. Consult a physician.
Eyes:	Immediately rinse out with water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Consult a physician.
Ingestion:	Wash out mouth with water. Drink plenty of water. Consult a physician. Never give anything by mouth to an unconscious person.
	See section 11 for more detailed information on health effects & symptoms

SECTION 5: Fire Fighting Measures

Flammability of the product:	Not flammable or combustible.
Extinguishing Media:	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Hazardous thermal (de)composition products:	During a fire, highly toxic gases may be generated by thermal decomposition or combustion.
Special Fire Fighting Procedures:	Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Flash Point:	N/A

Section 6: Accidental Release Measures





Personal Precautions:	Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation.
Environmental Precautions:	Do not let product enter drains
Methods for Clean-up:	Soak up with absorbent material, discard.

SECTION 7: Handling & Storage

Storage:	Keep container tightly closed.
Handling:	Always wear personal protective equipment.

SECTION 8: Exposure controls / Personal Protection

Respiratory Protection:	Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a
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	<p>full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).</p>  <p>If exposure limit reached use ventilation system when handling or wear appropriate government (NIOSH/MSHA) approved respirator.</p>
Skin and Body:	  <p>Chemical-resistant gloves and lab coat/other protective clothing. Avoid prolonged or repeated exposure. Wash thoroughly after handling.</p>
Eyes:	 <p>Safety goggles.</p>
Ventilation/Engineering Measures:	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits.
Hygiene:	Wash hands after handling compound and before eating, smoking, using lavatory and at the end of the day.
Other:	Contains no substances with occupational exposure limit values.

SECTION 9: Physical and Chemical Properties

Appearance & Odor:	White powder
Formula	N/A
Molecular Wt.	N/A
Melting Pt.	N/A
Boiling Pt.	N/A
Density:	N/A
Vapor Pressure:	N/A
Evaporation Rate:	N/A

Vapor Density:	N/A
Solubility:	Water soluble
Flash Point:	N/A
Autoignition Temp:	N/A

SECTION 10: Stability and Reactivity

Stability:	Stable under recommended storage conditions.
Hazardous decomposition products:	N/A
Materials to Avoid:	Strong oxidizing agents.
Conditions to avoid:	Incompatible materials.

SECTION 11: Toxicological Information

RTECS#:	N/A
ACUTE Toxicity:	LD50 -oral: > 3,500mg/kg (Rat) LD50 -dermal: > 3,500mg/kg (Rat)
SKIN CORROSION/IRRITATION:	May cause irritation.
RESPIRATORY OR SKIN SENSITIZATION:	May cause irritation of respiratory tract.
CHRONIC Toxicity:	N/A
Chronic Exposure: Carcinogen: Mutagen: Teratogen: Reproductive:	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. AGGIH: No component of this product present at levels greater than or equal to 0.1% is identified as probable, potential human carcinogen by ACGIH. NTP: No component of this product present at levels greater than or equal to 0.1% is identified as known or, anticipated human carcinogen by NTP. OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as known or, potential human carcinogen by OSHA. EPA: No classification on carcinogenic data is available from EPA

SECTION 12: Ecological Information

Ecotoxicity:	Do not allow substance to enter drinking water supplies, soil, or waste water.
Mobility:	N/A
Persistence and degradability:	N/A
Bioaccumulative potential:	N/A
Other adverse effects:	N/A
Corrosivity Characteristic:	N/A
General Notes:	Do not allow undiluted product or large quantities of it to reach groundwater , water course or sewer system. Do not allow materials to be released into the environment without proper government permits.

SECTION 13: Disposal Considerations

Residue Waste or Unused product:	Only professional staff trained in such techniques must undertake waste disposal. Observe all appropriate federal, provincial or state and local regulations.
Contaminated Packaging:	Do not re-use empty containers. Dispose of as unused product.

SECTION 14: Transportation Information

UN ID#:	3261
ADR / RID (LAND):	Not shipping hazard
DOT regulations:	UN Number: 3261 Proper shipping name: Corrosive solid, acidic, organic, n.o.s. (Tris-(2carboxyethyl) phosphineHCL) Class: 8 Packing Group: 2 Marine Pollutant: No
IMDG/IMO (SEA):	UN Number: 3261 Proper shipping name: Corrosive solid, acidic, organic, n.o.s. (Tris-(2carboxyethyl) phosphineHCL) Class: 8 Packing Group: 2 Marine Pollutant: No
IATA/DGR (AIR):	UN Number: 3261 Proper shipping name: Corrosive solid, acidic, organic, n.o.s. (Tris-(2carboxyethyl) phosphineHCL) Class: 8 Packing Group: 2 Marine Pollutant: No
Special Provisions:	N/A

SECTION 15: Regulatory Information

Health Phrases:	H315: Skin Corrosion/irritation Cat. 2 H319: Serious Eye Damage/Eye Irritation Cat. 2 H335: Specific target organ toxicity (single exposure) Cat. 3 Target Organs - Respiratory system
Risk Phrases:	N/A
Safety Phrases:	N/A
EU Regulations:	N/A
US Regulations:	TSCA. No products were found. California Proposition 65: No products were found.
U.S. Federal Regulations:	SARA 302/304/311/312 extremely hazardous substances: No products were found SARA 302/304 emergency planning and notification: No products were found. SARA 302/304/311/312 hazardous chemicals: No products were found. SARA 311/312 MSDS distribution-chemical inventory-hazard identification: Acute



	<p align="center">Health Hazard</p> <p>SARA 313 toxic chemicals notification and release reporting: No products were found.</p> <p>Clean Water Act (CWA) 307: No products were found.</p> <p>Clean Water Act (CWA) 311: No products were found.</p> <p>Clean Air Act (CAA) 112 accidental release prevention: No products were found.</p> <p>Clean Air Act (CAA) 112 regulated flammable substances: No products were found.</p> <p>Clean Air Act (CAA) 112 regulated toxic substances: No products were found.</p> <p>OSHA: No products were found.</p>
WHMIS (Canada):	N/A

SECTION 16: Other Information

LIABILITY STATEMENT: *The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. A.G. Scientific shall not be held liable for any damages resulting from handling or from contact with the above product. A.G. Scientific products are for research purposes only. Not for human use or consumption.*