

# MSDS - Material Safety Data Sheet

<b>Section 1.</b>	<b>Product and Company Identification</b>	
Supplier	CovaChem, LLC. 6260 East Riverside Blvd, STE 119 Loves Park, IL 61111 Phone: +1.815.315.1271 x3 Fax: +1.815.315.1272 +1.815.714.8421	
Emergency Phone #:	+1.815.714.8421	
Product Number	11303-1, 11303-5, 11303-25, 11303-custom	
Product Name	<a href="#">TCEP, TCEP-HCl, Tris(2-carboxyethyl)phosphine hydrochloride</a>	
<b>Section 2.</b>	<b>Composition / Information on Ingredients</b>	
<b>OSHA Hazards</b>	Corrosive Corrosive	
<b>HMIS Classification</b>	Health Hazard	3
	Flammability	0
	Physical Hazard	0
<b>NFPA Rating</b>	Health Hazard	3
	Flammability	0
	Physical Hazard	0
<b>Potential Health Effects</b>	Inhalation	May be harmful if inhaled. May cause respiratory irritation.
	Skin	May be harmful if absorbed through the skin.
	Eyes	May cause irritation to the eyes.
	Ingestion	May be harmful if ingested.
<b>Section 3.</b>	<b>Hazards Identification</b>	
Synonyms	<a href="#">TCEP, TCEP-HCl, Tris(2-carboxyethyl)phosphine hydrochloride</a>	
Molecular Weight	<a href="#">51805-45-9</a>	
Formula	C9CH16O6P	
<b>Section 4.</b>	<b>First Aid Measures</b>	
If Inhaled	Move to fresh air. Give artificial respiration if breathing has ceased.	
In case of Skin Contact	Remove affected clothes immediately. Wash with soap and water.	
In Case of Eye Contact	Flush with plenty of water. Seek medical attention promptly.	
If Swallowed	Rinse mouth with water and seek medical attention promptly.	
<b>Section 5.</b>	<b>Fire-Fighting Measures</b>	
Suitable Extinguishing Media	Water, dry chemical, alcohol resistant foam are all suitable.	
Protective Equipment	If needed, wear self contained breathing apparatus.	
Hazardous Combustion Products	Carbon oxides, Phosphorus oxides, and chlorine gas may form upon combustion	
<b>Section 6.</b>	<b>Accidental Release Measures</b>	
Personal Precautions	Avoid breathing dust or vapors. Use in well ventilated area.	
Environmental precautions	Prevent environmental release. Do not pour down drain.	
<b>Section 7.</b>	<b>Handling and Storage</b>	
Conditions for Safe Storage	Store container in a well ventilated, dry location. Store at 4 °C.	
Precautions regarding safe handling	Provide adequate ventilation and standard fire prevention measures.	
<b>Section 8.</b>	<b>Exposure Controls / Personal Protection</b>	
Does not contain any substance with occupational exposure limit values.		
Respiratory Protection	Use of an air purifying respiratory is recommended, type N100 or type P3 (EN 143).	
Hand Protection	Handle with nitrile rubber gloves.	
Eye Protection	Use a face shield and safety glasses.	
Body and Skin Protection	Complete chemical protective suit is recommended. The personal protective equipment should be selected depending upon the concentration and amount of chemical at work station.	
Hygiene	Wash hands and arms after use, prior to eating, and before breaks. Always use good industrial hygiene and safety practices.	
<b>Section 9.</b>	<b>Physical and Chemical Properties</b>	
Form	white solid	
Melting Point	175 - 179 °C	
Boiling Point	unavailable	
Flash Point	unavailable	
Ignition Temperature	unavailable	
Autoignition Temperature	unavailable	
Density	unavailable	
Water Solubility	unavailable	
Partition Coeff: n-octanol/water	unavailable	
<b>Section 10.</b>	<b>Stability and Reactivity</b>	
Chemical Stability	Stable under recommended storage conditions.	
Possibility of hazardous reactions	unavailable	
Conditions to Avoid	Do not expose to moisture	
Materials to Avoid	Strong Oxidizers, Acid anhydrides, Acid chlorides, Strong bases	
Hazardous decomposition products	Phosphorus oxides, chlorine gas, hydrogen chloride, and carbon oxides formed under fire conditions.	

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<b>Section 11.</b>	<b>Toxicology</b>
Oral LD50	LD50 Oral - rat - 3,500 mg/kg
Inhalation LC50	data unavailable
Dermal LD50	LD50 Dermal - rat - 3,000 mg/kg
Skin corrosion / irritation	data unavailable
Eye Damage or Irritation	data unavailable
Skin and Respiratory Sensitization	data unavailable
Germ Cell Mutagenicity	data unavailable
Carcinogenicity	
IARC	No component present at greater than 0.1% is identified as a probable, possible or confirmed human carcinogen by IARC.
ACGIH	No component present at greater than 0.1% is identified as a probable, possible or confirmed human carcinogen by ACGIH.
NTP	No component present at greater than 0.1% is identified as a probable, possible or confirmed human carcinogen by NTP.
OSHA	No component present at greater than 0.1% is identified as a probable, possible or confirmed human carcinogen by OSHA.
Reproductive Toxicity	data unavailable
Teratogenicity	data unavailable
Aspiration Hazard	data unavailable
Potential Health Effects	
Inhalation	May be harmful if inhaled. Material is damaging to mucous membranes and upper respiratory tract.
Ingestion	May cause harm if swallowed.
Skin	May cause harm if absorbed through skin.
Eyes	May cause eye irritation and burns.
<b>Section 12.</b>	<b>Ecological Information</b>
Toxicology	data unavailable
Persistence and degradability	data unavailable
Bioaccumulative potential	data unavailable
Mobility in soil	data unavailable
PBT and vPvB assessment	data unavailable
Other Adverse effects	data unavailable
<b>Section 13.</b>	<b>Disposal Consideration</b>
Disposal Considerations	Generation of waste should be kept to a minimum when possible. Any waste generated should be recycled when possible. Please dispose any unused or used materials in accordance with applicable national, regional and local laws and regulations.
<b>Section 14.</b>	<b>Transportation Information</b>
<b>DOT (USA)</b>	
UN Number: 3261	Packing Group: II Class: 8
Shipping Name: Corrosive solid, acidic, organic, n.o.s. (Tris(2-carboxyethyl)phosphine hydrochloride)	
Poison Inhalation Hazard: No	Marine Pollutant: No
<b>IMDG</b>	
UN Number: 3261	Packing Group: II Class: 8
Shipping Name: Corrosive solid, acidic, organic, n.o.s. (Tris(2-carboxyethyl)phosphine hydrochloride)	
Marine Pollutant: No	
<b>IATA</b>	
UN Number: 3261	Packing Group: II Class: 8
Shipping Name: Corrosive solid, acidic, organic, n.o.s. (A1)	
<b>Section 15.</b>	<b>Regulatory Information</b>
OSHA Hazards	None known
SARA 302 Components	No chemicals in this material are subject to reporting requirements of SARA Title III, Section 302.
SARA 311/312	No SARA Hazards
California Prop. 65 Components	This material does not contain any chemicals known to the State of California to cause reproductive harm or birth defects.
Right to Know Components	<a href="#">Tris(2-carboxyethyl)phosphine hydrochloride (CAS# 51805-45-9)</a>
<b>Section 16.</b>	<b>Other Information</b>
Other Information	The information represented in this MSDS is believed to be correct and is based on the current state of our knowledge. This document or any other document does not represent or suggest any type of warranty or guarantee of the product properties or characteristics of this material. CovaChem, LLC and its affiliates shall not be held liable for any damages that result from contact