

# Material Safety Data Sheet

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
	<p>Hygroscopic -- keep container tightly sealed.                      The health risks of this compound have not been fully determined.                      Exposure may cause irritation of the skin, eyes, and respiratory system.</p>	

## Section I. Chemical Product and Company Identification

Chemical Name	<b>Pentaerythritol</b>		
Catalog Number	P0039	Supplier	TCl America 9211 N. Harbortgate St. Portland OR 1-800-423-8616
Synonym	Tetrahydroxymethylmethane		
Chemical Formula	C(CH <sub>2</sub> OH) <sub>4</sub>		
CAS Number	115-77-5	In case of Emergency Call	<b>Chemtrec®</b> <b>(800) 424-9300 (U.S.)</b> <b>(703) 527-3887 (International)</b>

## Section II. Composition and Information on Ingredients

Chemical Name	CAS Number	Percent (%)	TLV/PEL	Toxicology Data
Pentaerythritol	115-77-5	Min. 99.0 (W)	Not available.	Rat LD <sub>50</sub> (oral) 19500mg/kg Mouse LD <sub>50</sub> (oral) 25500mg/kg Rabbit LD <sub>50</sub> (oral) 18500mg/kg

## Section III. Hazards Identification

Acute Health Effects	No specific information is available in our data base regarding the toxic effects of this material for humans. However, exposure to any chemical should be kept to a minimum. Skin and eye contact may result in irritation. May be harmful if inhaled or ingested. Always follow safe industrial hygiene practices and wear proper protective equipment when handling this compound.
Chronic Health Effects	<p><b>CARCINOGENIC EFFECTS</b> : Not available.  <b>MUTAGENIC EFFECTS</b> : Not available.  <b>TERATOGENIC EFFECTS</b> : Not available.  <b>DEVELOPMENTAL TOXICITY</b>Not available.                      Repeated exposure to an highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.</p>

## Section IV. First Aid Measures

Eye Contact	Check for and remove any contact lenses. IMMEDIATELY flush eyes with running water for at least 15 minutes. Keeping eyelids open. COLD water may be used. DO NOT use an eye ointment. Flush eyes with running water for a minimum of 15 minutes, occasionally lifting the upper eyelids. Seek medical attention. Treat symptomatically and supportively.
Skin Contact	After contact with skin, wash immediately with plenty of water. Gently and thorough wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. COLD water may be used. Cover the irritated skin with an emollient. Seek medical attention. Treat symptomatically and supportively. Wash any contaminated clothing before reusing.
Inhalation	If the victim is not breathing, perform artificial respiration. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, oxygen can be administered. Seek medical attention. Treat symptomatically and supportively.
Ingestion	INDUCE VOMITING by sticking finger in throat. Lower the head so that the vomit will not reenter the mouth and throat. Loosen tight clothing such as a collar, tie, belt, or waistband. If the victim is not breathing, administer artificial respiration. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Seek immediate medical attention and, if possible, show the chemical label. Treat symptomatically and supportively.

## Section V. Fire and Explosion Data

Flammability	May be combustible at high temperature.	Auto-Ignition	Not available.
Flash Points	Not available.	Flammable Limits	Not available.
Combustion Products	These products are toxic carbon oxides (CO, CO <sub>2</sub> ).		
Fire Hazards	No specific information is available regarding the flammability of this compound in the presence of various materials.		
Explosion Hazards	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available. No additional information is available regarding the risks of explosion.		
Fire Fighting Media and Instructions	SMALL FIRE: Use DRY chemicals, CO <sub>2</sub> , water spray or foam. LARGE FIRE: Use water spray, fog or foam. DO NOT use water jet.		

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Emergency phone number (800) 424-9300

**Section VI. Accidental Release Measures**

Spill Cleanup Instructions	Hygroscopic material. In case of a spill and/or a leak, always shut off any sources of ignition, ventilate the area, and exercise caution. Use a shovel to put the material into a convenient waste disposal container. Finish cleaning the spill by rinsing any contaminated surfaces with copious amounts of water. Consult federal, state, and/or local authorities for assistance on disposal.
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**Section VII. Handling and Storage**

Handling and Storage Information	HYGROSCOPIC. Handle with caution and minimize exposure. Keep away from heat and sources of ignition. Mechanical exhaust required. When not in use, tightly seal the container and store in a dry, cool place. Avoid excessive heat and light. DO NOT ingest. DO NOT breathe dust. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label. Treat symptomatically and supportively. Always store away from incompatible compounds such as oxidizing agents, acids.
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**Section VIII. Exposure Controls/Personal Protection**

Engineering Controls	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
Personal Protection	Splash goggles. Lab coat. Dust respirator. Boots. Gloves. Be sure to use a MSHA/NIOSH approved respirator or equivalent. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
	
Exposure Limits	Not available.

**Section IX. Physical and Chemical Properties**

Physical state @ 20°C	White crystalline powder.	Solubility	1g dissolves in 18mL water @ 15°C. Insoluble in benzene, ether, carbon tetrachloride, petroleum ether and acetone. Soluble in ethanol, glycerol, ethylene glycol and formamide.
Specific Gravity	Not available.	Partition Coefficient	Not available.
Molecular Weight	136.15	Vapor Pressure	>1 mm of Hg @ 20°C
Boiling Point	276°C @ 30mm Hg (528.8°F)	Vapor Density	Not available.
Melting Point	255 to 259°C	Volatility	Not available.
Refractive Index	1.54 - 1.56 @ 20°C	Odor	Odorless.
Critical Temperature	Not available.	Taste	Not available.
Viscosity	Not available.		

**Section X. Stability and Reactivity Data**

Stability	This material is stable if stored under proper conditions. (See Section VII for instructions)
Conditions of Instability	Hygroscopic-- Keep container tightly sealed. Avoid excessive heat and light.
Incompatibilities	Reactive with strong oxidizing agents, strong acids, acid chlorides, and acid anhydrides.

**Section XI. Toxicological Information**

RTECS Number	RZ2490000
Routes of Exposure	Eye contact. Ingestion. Inhalation.
Toxicity Data	Rat LD <sub>50</sub> (oral) 19500mg/kg Mouse LD <sub>50</sub> (oral) 25500mg/kg Rabbit LD <sub>50</sub> (oral) 18500mg/kg
Chronic Toxic Effects	<b>CARCINOGENIC EFFECTS</b> : Not available. <b>MUTAGENIC EFFECTS</b> : Not available. <b>TERATOGENIC EFFECTS</b> : Not available. <b>DEVELOPMENTAL TOXICITY</b> Not available. Repeated exposure to an highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.
Acute Toxic Effects	No specific information is available in our data base regarding the toxic effects of this material for humans. However, exposure to any chemical should be kept to a minimum. Skin and eye contact may result in irritation. May be harmful if inhaled or ingested. Always follow safe industrial hygiene practices and wear proper protective equipment when handling this compound.

**Section XII. Ecological Information**

Ecotoxicity Not available.

Environmental Fate The release of pentaerythritol in the environment is expected to occur during waste disposal from its production and use in alkyl resins, fatty acid esters, adhesives varnishes and miscellaneous products. If released to soil, biodegradation of pentaerythritol should be an important removal process. Because of the estimated low Koc value in soil, pentaerythritol may rapidly leach from soil. The volatilization of pentaerythritol from soil is not expected to be an important removal process. If released to water, biodegradation should be an important degradation process. Because of lack of suitable functional groups, neither photolysis nor hydrolysis are expected to be important in water. Based on its low Koc value, the compound will not remain adsorbed to particulate matters and sediment in water, but instead will be present in the water column. Based on its estimated low values for Henry's Law constant and bioconcentration factor, neither volatilization from water nor bioconcentration in aquatic organisms would be important for pentaerythritol. In the atmosphere, pentaerythritol would be present adsorbed on particles and the primary removal processes may be wet and dry deposition. Worker exposure to pentaerythritol is likely to occur both by dermal and inhalation routes during the production, use and disposal of the compound.

**Section XIII. Disposal Considerations**

Waste Disposal Recycle to process, if possible. Consult your local or regional authorities. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. Observe all federal, state, and local regulations when disposing of the substance.

**Section XIV. Transport Information**

DOT Classification Not a DOT controlled material (United States).

PIN Number Not applicable.

Proper Shipping Name Not applicable.

Packing Group (PG) Not applicable.

DOT Pictograms

**Section XV. Other Regulatory Information and Pictograms**TSCA Chemical Inventory (EPA) This compound is **ON** the EPA Toxic Substances Control Act (TSCA) inventory list.

WHMIS Classification (Canada) Not available.

EINECS Number (EEC) 204-104-9

EEC Risk Statements Not available.

Japanese Regulatory Data Not available.

**Section XVI. Other Information**

**Version 1.0**  
**Validated on 6/22/1999.**  
**Printed 3/17/2005.**

**Notice to Reader**

TCI laboratory chemicals are for research purposes only and are NOT intended for use as drugs, food additives, households, or pesticides. The information herein is believed to be correct, but does not claim to be all inclusive and should be used only as a guide. Neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All chemical reagents must be handled with the recognition that their chemical, physiological, toxicological, and hazardous properties have not been fully investigated or determined. All chemical reagents should be handled only by individuals who are familiar with their potential hazards and who have been fully trained in proper safety, laboratory, and chemical handling procedures. Although certain hazards are described herein, we can not guarantee that these are the only hazards which exist. Our MSDS sheets are based only on data available at the time of shipping and are subject to change without notice as new information is obtained. Avoid long storage periods since the product is subject to degradation with age and may become more dangerous or hazardous. It is the responsibility of the user to request updated MSDS sheets for products that are stored for extended periods. Disposal of unused product must be undertaken by qualified personnel who are knowledgeable in all applicable regulations and follow all pertinent safety precautions including the use of appropriate protective equipment (e.g. protective goggles, protective clothing, breathing equipment, facial mask, fume hood). For proper handling and disposal, always comply with federal, state, and local regulations.