

# Material Safety Data Sheet

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
  	Flammable material; avoid heat and sources of ignition. Corrosive to eyes and skin on contact. Toxic compound, do not ingest or inhale. Avoid all contact with this material. Hygroscopic -- keep container tightly sealed.	

## Section I. Chemical Product and Company Identification

Chemical Name	<b>Benzyltrimethylammonium Hydroxide</b> (40% in Methanol)		
Catalog Number	B0448	Supplier	TCI America 9211 N. Harborgate St. Portland OR 1-800-423-8616
Synonym	Trimethylbenzylammonium Hydroxide		
Chemical Formula	[C <sub>6</sub> H <sub>5</sub> CH <sub>2</sub> N(CH <sub>3</sub> ) <sub>3</sub> ]OH		
CAS Number	100-85-6 67-56-1	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
Benzyltrimethylammonium Hydroxide (40% in Methanol)	100-85-6 67-56-1	approx. 40.0 approx. 60.0	Not available <b>Methanol:</b> OSHA, NIOSH, ACGIH: TWA 200 ppm (skin) STEL 250 ppm	<b>Benzyltrimethylammonium Hydroxide:</b> Mouse LDLo (subcutaneous) 35 mg/kg <b>Methanol:</b> Human LDLo (oral) 143 mg/kg Rat LD <sub>50</sub> (oral) 5628 mg/kg Rat LD <sub>50</sub> (intraperitoneal) 7529 mg/kg

## Section III. Hazards Identification

Acute Health Effects	Corrosive to skin, eyes, and respiratory system. Liquid or spray mist may produce tissue damage, particularly in mucous membranes of the eyes, mouth and respiratory tract. Skin contact may produce burns. Eye contact can result in corneal damage or blindness. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Corrosive materials may cause serious injury if ingested. Toxic if ingested or inhaled. Avoid prolonged contact with this material. Overexposure may result in serious illness or death. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound. <b>Effects of overexposure to methanol:</b> Mild poisoning is characterized by fatigue, nausea, headache, and delayed visual blurring. Moderate intoxication results in severe depression; temporary or permanent blindness may follow in 2-6 days. In severe poisoning, symptoms progress to rapid, shallow respiration, cyanosis, coma, hypotension, dilated pupils, and visual disturbance. Death may result from respiratory failure.
Chronic Health Effects	<b>CARCINOGENIC EFFECTS:</b> Not available. <b>MUTAGENIC EFFECTS : Methanol only:</b> DNA damage: Rat (oral) 10 μmol/kg DNA repair: Bacteria (E coli) 20 mg/well DNA inhibition: Human (lymphocyte) 300 mmol/L <b>TERATOGENIC EFFECTS:</b> Not available. <b>DEVELOPMENTAL TOXICITYMethanol only</b> Reproductive effects: Rat (oral) 35295 mg/kg. Duration: female- 1 to 15 days of pregnancy. Effects on fetus: Fetotoxicity. Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection. Repeated exposure to an highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

## 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 and lower eyelids. Seek medical attention. Treat symptomatically and supportively.
Skin Contact	If the chemical gets spilled on a clothed portion of the body, remove the contaminated clothes as quickly as possible, protecting your own hands and body. Place the victim under a deluge shower. If the chemical touches the victim's exposed skin, such as the hands: Gently and thoroughly 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. Seek medical attention. Treat symptomatically and supportively. Wash any contaminated clothing before reusing.

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Emergency phone number (800) 424-9300

Inhalation	Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform artificial respiration. WARNING: It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention and, if possible, show the chemical label. Treat symptomatically and supportively.
Ingestion	DO NOT induce vomiting. 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	Flammable.	Auto-Ignition	Not available.
Flash Points	15°C (59°F)	Flammable Limits	Not available.
Combustion Products	These products are toxic carbon oxides (CO, CO <sub>2</sub> ), nitrogen oxides (NO, NO <sub>2</sub> ).		
Fire Hazards	Reactive with strong oxidizers. Vapors may travel to source of ignition and flash back. Closed containers may explode from the heat of a fire. Highly flammable in presence of open flames and sparks, of shocks, of heat.		
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	Flammable liquid, soluble or dispersed in water. SMALL FIRE: Use DRY chemicals, CO <sub>2</sub> , alcohol foam or water spray. LARGE FIRE: Use alcohol foam, water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion.		

**Section VI. Accidental Release Measures**

Spill Cleanup Instructions	Flammable liquid. Corrosive liquid. Toxic liquid. Keep away from heat and sources of ignition. Mechanical exhaust required. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. DO NOT get water inside container. DO NOT touch spilled material. Use water spray curtain to divert vapor drift. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all sources of ignition. Consult federal, state, and/or local authorities for assistance on disposal.
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**Section VII. Handling and Storage**

Handling and Storage Information	FLAMMABLE. CORROSIVE. TOXIC. HYGROSCOPIC. Reactive with strong oxidizers; may be ignited by heat, sparks, or flames. Vapors may travel to source of ignition and flash back. Tightly seal container and store in a cool place. Closed containers may explode from heat of a fire. Empty containers may pose a fire risk. Evaporate residue under a fume hood if possible. Ground all equipment containing material. Handle with caution and minimize exposure. Keep container dry. Keep away from heat and sources of ignition. Mechanical exhaust required. Avoid excessive heat and light. DO NOT ingest. Do not breathe gas, fumes, vapor or spray. Avoid contact with eyes. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. 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.
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**Section VIII. Exposure Controls/Personal Protection**

Engineering Controls	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash station and safety shower is proximal to the work-station location.
Personal Protection	Face shield. Lab coat. Vapor respirator. Boots. Gloves. A MSHA/NIOSH approved respirator should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product. 
Exposure Limits	Not available <b>Methanol:</b> OSHA, NIOSH, ACGIH: TWA 200 ppm (skin) STEL 250 ppm

**Section IX. Physical and Chemical Properties**

Physical state @ 20°C	Colorless to light-yellow liquid.	Solubility	Soluble in cold water, hot water.
Specific Gravity	0.92		
Molecular Weight	167.25	Partition Coefficient	Not available.
Boiling Point	Not available.	Vapor Pressure	Not available.
Melting Point	Not available.	Vapor Density	Not available.
Refractive Index	Not available.	Volatility	Not available.
Critical Temperature	Not available.	Odor	Not available.
Viscosity	Not available.	Taste	Not available.

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**Section X. Stability and Reactivity Data**

Stability	This material is stable if stored under proper conditions. (See Section VII for instructions)
Conditions of Instability	Avoid excessive heat and light.
Incompatibilities	Methanol can react vigorously with strong oxidizing agents.

**Section XI. Toxicological Information**

RTECS Number	BO8575000
Routes of Exposure	Eye contact. Ingestion. Inhalation. Skin contact.
Toxicity Data	<b>Benzyltrimethylammonium Hydroxide:</b> Mouse LDLo (subcutaneous) 35 mg/kg <b>Methanol:</b> Human LDLo (oral) 143 mg/kg Rat LD <sub>50</sub> (oral) 5628 mg/kg Rat LD <sub>50</sub> (intraperitoneal) 7529 mg/kg
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**Section XII. Ecological Information**

Ecotoxicity	Not available.
Environmental Fate	Methanol has been identified as a natural emission product from various plants and as a biological decomposition product of biological wastes and sewage. The largest anthropogenic source of methanol release to the environment is evaporation from solvent uses (1.1 billion lb/yr). If released to the atmosphere, methanol degrades via reaction with photochemically produced hydroxyl radicals with an approximate half-life of 17.8 days. Physical removal from air can occur via rainfall. If released to water, decomposition via biodegradation is expected to occur. If released to soil, methanol is expected to degrade via biodegradation and be susceptible to significant leaching. Relatively rapid evaporation from dry surfaces is likely to occur. Occupational and general exposure occurs through inhalation and dermal contact. Exposure also occurs through consumption of various foods and waters. (HSDB)

**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 this substance.
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**Section XIV. Transport Information**

DOT Classification	DOT CLASS 3: Flammable liquid. DOT CLASS 6.1: Toxic material. DOT CLASS 8: Corrosive liquid.
PIN Number	UN3286
Proper Shipping Name	Flammable liquid, toxic, corrosive, n.o.s.
Packing Group (PG)	II
DOT Pictograms	  

**Section XV. Other Regulatory Information and Pictograms**

TSCA Chemical Inventory (EPA)	This product is <b>ON</b> the EPA Toxic Substances Control Act (TSCA) inventory.
WHMIS Classification (Canada)	WHMIS CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F).
EINECS Number (EEC)	202-895-5
EEC Risk Statements	R12- Extremely flammable.
Japanese Regulatory Data	Not available.

**Section XVI. Other Information**

**Version 1.0**  
**Validated on 7/30/1997.**  
**Printed 1/21/2005.**

**Notice to Reader**

TCl 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.