

# 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. Highly toxic; do not ingest or inhale. Air sensitive material.	

## Section I. Chemical Product and Company Identification

Chemical Name	<b>Tetramethylammonium Hydroxide</b> (ca. 25% in Water)		
Catalog Number	T1460	Supplier	TCl America 9211 N. Harborgate St. Portland OR 1-800-423-8616
Synonym	Ammonium, Tetramethyl-, Hydroxide		
Chemical Formula	(CH <sub>3</sub> ) <sub>4</sub> N•OH		
CAS Number	75-59-2 7732-18-5	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
Tetramethylammonium Hydroxide <small>(ca. 25% in Water)</small>	75-59-2 7732-18-5	25 75	Not available.	Mouse LD <sub>50</sub> (subcutaneous) 19mg/kg Rabbit LD <sub>50</sub> (intravenous) 1mg/kg Frog LD <sub>50</sub> (parenteral) 5mg/kg Guinea Pig LD <sub>50</sub> (dermal) 25mg/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. Highly 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.
Chronic Health 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 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.

## Section IV. First Aid Measures

Eye Contact	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.
Skin Contact	In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
Inhalation	If the victim is not breathing, perform mouth-to-mouth resuscitation. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, oxygen can be administered. Seek medical attention if respiration problems do not improve.
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, perform mouth-to-mouth resuscitation. 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 in case of ingestion of a radioactive material.

## Section V. Fire and Explosion Data

Flammability	May be combustible at high temperatures.	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> ), nitrogen oxides (NO <sub>x</sub> ).		
Fire Hazards	Reactive with strong oxidizers. Vapors may travel to source of ignition and flash back. Closed containers may explode from heat of a fire. Highly flammable in presence of open flames and sparks, of heat.		

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Emergency phone number (800) 424-9300

(ca. 25% in Water)

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.

Fire Fighting Media and Instructions SMALL FIRE: Use DRY chemical powder.  
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. Consult with local fire authorities before attempting large scale fire-fighting operations.

**Section VI. Accidental Release Measures**

Spill Cleanup Instructions Corrosive liquid. Highly toxic material. Air sensitive material.  
Keep away from heat. 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. Consult federal, state, and/or local authorities for assistance on disposal.

**Section VII. Handling and Storage**

Handling and Storage Information CORROSIVE. HIGHLY TOXIC. AIR SENSITIVE. Keep container dry. Keep away from heat. Mechanical exhaust required. Avoid excessive heat and light. Do not breathe gas/fumes/ vapor/spray. Never add water to this product. Wear suitable protective clothing. If you feel unwell, seek medical attention and show the label when possible. Treat symptomatically and supportively.  
Always store away from incompatible compounds such as oxidizing agents. Readily absorbs CO<sub>2</sub> from air.

**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. 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	Liquid.	Solubility	Not available.
Specific Gravity	0.866		
Molecular Weight	91.15	Partition Coefficient	Not available.
Boiling Point	Not available.	Vapor Pressure	17.5mm Hg @ 20°C
Melting Point	Not available.	Vapor Density	Not available.
Refractive Index	Not available.	Volatility	Not available.
Critical Temperature	Not available.	Odor	Strong ammonia-like odor.
Viscosity	Not available.	Taste	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 Avoid excessive heat and light.

Incompatibilities Reactive with oxidizing agents, reducing agents, acids, acid chlorides, and acid anhydrides, and alkali metals.

**Section XI. Toxicological Information**

RTECS Number PA0875000

Routes of Exposure Eye Contact. Ingestion. inhalation. Skin contact.

Toxicity Data Mouse LD<sub>50</sub> (subcutaneous) 19mg/kg  
Rabbit LD<sub>50</sub> (intravenous) 1mg/kg  
Frog LD<sub>50</sub> (parenteral) 5mg/kg  
Guinea Pig LD<sub>50</sub> (dermal) 25mg/kg

Chronic Toxic Effects **CARCINOGENIC EFFECTS** : Not available.  
**MUTAGENIC EFFECTS** : Not available.  
**TERATOGENIC EFFECTS** : Not available.  
**DEVELOPMENTAL TOXICITY** : Not available.  
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.

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**Section XII. Ecological Information**

Ecotoxicity	Not available.
Environmental Fate	Not available.

**Section XIII. Disposal Considerations**

Waste Disposal	Recycle to process, if possible. Consult your local 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.
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**Section XIV. Transport Information**

DOT Classification	Class 8: Corrosive material
PIN Number	UN1835
Proper Shipping Name	Tetramethylammonium hydroxide
Packing Group (PG)	II
DOT Pictograms	

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

TSCA Chemical Inventory (EPA)	This compound is <b>ON</b> the EPA Toxic Substances Control Act (TSCA) inventory list
WHMIS Classification (Canada)	CLASS B-2: Flammable liquid with a flash point lower than 35°C (100°F). CLASS E: Corrosive liquid..
EINECS Number (EEC)	200-882-9
EEC Risk Statements	R10- Flammable. R18- In use, may form flammable/explosive vapor-air mixture. R34- Causes burns. R26/27/28- Very toxic by inhalation, in contact with skin and if swallowed.
Japanese Regulatory Data	Not available.

**Section XVI. Other Information**

**Version 1.0**  
**Validated on 7/27/2000.**  
**Printed 3/15/2005.**

**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.