



## Safety Data Sheet

### TMAH 25%

#### SECTION 1: Identification

##### 1.1 GHS Product identifier

Product name TMAH 25%

##### 1.2 Other means of identification

Tetramethylammonium Hydroxide Solution, Ammonium, Tetramethyl-, Hydroxide

##### 1.3 Recommended use of the chemical and restrictions on use

For laboratory and manufacturing use only.

##### 1.4 Supplier's details

Name High Purity Products  
Address 14546 N. Lombard Street  
Portland OR 97203  
United States of America

Telephone 503-227-1616  
email help.desk@highpp.com

##### 1.5 Emergency phone number

CHEMTREC: 1-800-424-9300

#### SECTION 2: Hazard identification

##### 2.1 Classification of the substance or mixture

**GHS classification in accordance with: OSHA (29 CFR 1910.1200)**

- Acute toxicity, oral, Cat. 3
- Acute toxicity, dermal, Cat. 2
- Skin corrosion/irritation, Cat. 1
- Eye damage/irritation, Cat. 1
- Specific target organ toxicity (single exposure), Cat. 1
- Specific target organ toxicity (repeated exposure), Cat. 1

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### 2.2 GHS label elements, including precautionary statements

#### Pictogram



#### Signal word

**Danger**

#### Hazard statement(s)

H301 Toxic if swallowed  
H310 Fatal in contact with skin  
H314 Causes severe skin burns and eye damage  
H318 Causes serious eye damage  
H370 Causes damage to organs, nervous system  
H372 Causes damage to organs, nervous system through prolonged or repeated exposure inhalation

#### Precautionary statement(s)

P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P302+P352 IF ON SKIN: Wash with plenty of water for 15 minutes  
P260 Do not breathe vapors  
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately seek medical attention.  
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately seek medical attention.  
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately seek medical attention.  
P310 Immediately seek medical attention.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Immediately seek medical attention.  
P273 Avoid release to the environment.

## SECTION 3: Composition/information on ingredients

### 3.1 Mixture

Components	CAS #	Percent (weight)
Tetramethylammonium hydroxide	75-59-2	24-26%
Water	7732-18-5	74-76%

## SECTION 4: First-aid measures

### 4.1 Description of necessary first-aid measures

If inhaled If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact Wash off with water for 15 minutes. Immediately seek medical attention!

In case of eye contact Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician immediately.

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If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person.  
Rinse mouth with water. Consult a physician immediately.

### SECTION 5: Fire-fighting measures

#### 5.1 Suitable extinguishing media

Use extinguishing media appropriate for surrounding fire.

#### 5.2 Specific hazards arising from the chemical

Carbon oxides

Nitrogen oxides (NO<sub>x</sub>)

Fire may cause evolution of:

nitrogen oxides, nitrous gases

Ambient fire may liberate hazardous vapors.

#### 5.3 Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

### SECTION 6: Accidental release measures

#### 6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

#### 6.2 Environmental precautions

Do not let product enter drains.

#### 6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist.

#### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

### SECTION 8: Exposure controls/personal protection

#### 8.1 Control Parameters

This product does not have any occupational exposure limits established by the region specific regulatory bodies.

#### 8.2 Appropriate engineering controls

Ensure adequate ventilation.

#### 8.3 Individual protection measures, such as personal protective equipment (PPE)

Pictograms



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### Eye/face protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection.

### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.

### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator.

## SECTION 9: Physical and chemical properties and safety characteristics

Physical state	Liquid
Appearance	pale yellow liquid
Color	Colorless to pale yellow
Odor	Strong ammonia-like odor
Odor threshold	No data available.
pH	>13
Melting point/freezing point	No data available.
Boiling point or initial boiling point and boiling range	No data available.
Flash point	No data available.
Evaporation rate	No data available.
Flammability	No data available.
Vapor pressure	No data available.
Relative vapor density	No data available.
Density and/or relative density	1.005
Solubility	100%
Partition coefficient n-octanol/water (log value)	-2.47 Estimate (EPA)
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
Kinematic viscosity	No data available.
Explosive properties	No data available.
<b>Particle characteristics</b>	No data available.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

None under normal use conditions.

### 10.2 Chemical stability

Readily absorbs CO<sub>2</sub> from the air

### 10.3 Possibility of hazardous reactions

In contact with nitrites, nitrates, nitrous acid possible liberation of nitrosamines.

Violent reactions possible with: Strong oxidizing agents, Acids

Generates dangerous gases or fumes in contact with ammonium compounds

### 10.4 Conditions to avoid

Heat and incompatibles

### 10.5 Incompatible materials

Oxidizers

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#### 10.6 Hazardous decomposition products

Ammonia, volatile amines, Nitrogen oxides, and alcohols

## SECTION 11: Toxicological information

### Information on toxicological effects

#### Acute toxicity

##### Tetramethylammonium Hydroxide:

LD50 Dermal - guinea pig – 25 mg/kg

LD50 Dermal - Rats – 85.9 mg/kg (2.38% solution)

#### Skin corrosion/irritation

dermal exposure to TMAH may result in respiratory failure and/or sudden death.

#### Serious eye damage/irritation

Extremely destructive to tissue of the eye.

#### Respiratory or skin sensitization

Extremely destructive to tissue of the mucous membranes and upper respiratory tract. Inhalation may be fatal as a result of spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema.

#### Germ cell mutagenicity

No data available.

#### Carcinogenicity

No data available.

#### Reproductive toxicity

No data available.

#### STOT-single exposure

damage to organs; Central nervous system

#### STOT-repeated exposure

Liver, thymus

#### Aspiration hazard

No data available.

## SECTION 12: Ecological information

### Toxicity

LC50 130 µg/l aquatic invertebrates 11 d

EC50 80 µg/l aquatic invertebrates 11 d

### Persistence and degradability

The substance is readily biodegradable.

### Bioaccumulative potential

Low bioconcentration

### Mobility in soil

tetramethylammonium hydroxide is expected to have very high mobility based upon an estimated Koc of 8.

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### SECTION 13: Disposal considerations

#### Disposal methods

##### Product disposal

Waste material must be disposed of in accordance with the national and local regulations.

Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

EPA Waste Code: **D002**

### SECTION 14: Transport information

#### DOT (US)

UN Number: UN1835

Class: 8

Packing Group: II

Proper Shipping Name: Tetramethylammonium hydroxide solution

Marine pollutant: Yes

#### IMDG

UN Number: UN1835

Class: 8

Packing Group: II

Proper Shipping Name: Tetramethylammonium hydroxide solution

#### IATA

UN Number: UN1835

Class: 8

Packing Group: II

Proper Shipping Name: Tetramethylammonium hydroxide solution

### SECTION 15: Regulatory information

#### 15.1 Safety, health and environmental regulations specific for the product in question

##### Canadian Domestic Substances List (DSL)

Chemical name: Methanaminium, N,N,N-trimethyl-, hydroxide

CAS: 75-59-2

##### HMIS Rating

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HEALTH	3
FLAMMABILITY	1
PHYSICAL HAZARD	0
PERSONAL PROTECTION	

##### NFPA Rating

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**SECTION 16: Other information**

**Disclaimer:**

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