

SAFETY DATA SHEET

Creation Date 09-Apr-2010

Revision Date 25-Feb-2020

Revision Number 3

1. Identification**Product Name** Tetramethylammonium hydroxide, 25% w/w aqueous solution**Cat No. :** L09991**CAS-No** 75-59-2**Synonyms** N,N,N-Trimethylmethanaminium hydroxide.**Recommended Use** Laboratory chemicals.**Uses advised against** Food, drug, pesticide or biocidal product use.**Details of the supplier of the safety data sheet****Company**

Alfa Aesar
Thermo Fisher Scientific Chemicals, Inc.
30 Bond Street
Ward Hill, MA 01835-8099
Tel: 800-343-0660
Fax: 800-322-4757
Email: tech@alfa.com
www.alfa.com

Emergency Telephone Number

During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660.
After normal business hours, call Carechem 24 at (866) 928-0789.

2. Hazard(s) identification**Classification**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute oral toxicity	Category 3
Acute dermal toxicity	Category 2
Skin Corrosion/Irritation	Category 1 B
Serious Eye Damage/Eye Irritation	Category 1
Specific target organ toxicity (single exposure)	Category 1
Target Organs - Central nervous system (CNS).	
Specific target organ toxicity - (repeated exposure)	Category 1
Target Organs - Thymus.	

Label Elements**Signal Word**

Danger

Hazard Statements

Toxic if swallowed

Fatal in contact with skin
Causes severe skin burns and eye damage
Causes damage to organs
Causes damage to organs through prolonged or repeated exposure



Precautionary Statements

Prevention

Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Wear protective gloves/protective clothing/eye protection/face protection
Do not breathe dust/fume/gas/mist/vapors/spray

Response

Immediately call a POISON CENTER or doctor/physician

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Skin

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

Ingestion

Rinse mouth
Do NOT induce vomiting

Storage

Store locked up

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Toxic to aquatic life with long lasting effects

3. Composition/Information on Ingredients

Component	CAS-No	Weight %
Water	7732-18-5	75
Tetramethylammonium hydroxide	75-59-2	25

4. First-aid measures

General Advice

Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

Eye Contact

Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Do not rub affected area. Keep eye wide open while rinsing.

Skin Contact

Immediate medical attention is required. Wash off immediately with plenty of water for at least 15 minutes.

Inhalation	Immediate medical attention is required. Remove to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
Ingestion	Do NOT induce vomiting. Call a physician or poison control center immediately.
Most important symptoms and effects	Causes burns by all exposure routes. . Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation
Notes to Physician	Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media	Carbon dioxide (CO ₂). Dry chemical. Chemical foam.
Unsuitable Extinguishing Media	No information available
Flash Point	> 95 °C / > 203 °F
Method -	No information available
Autoignition Temperature	No information available
Explosion Limits	
Upper	No data available
Lower	No data available
Sensitivity to Mechanical Impact	No information available
Sensitivity to Static Discharge	No information available

Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors. In the event of fire and/or explosion do not breathe fumes.

Hazardous Combustion Products

Nitrogen oxides (NO_x). Carbon monoxide (CO). Carbon dioxide (CO₂). Ammonia. Amines. Thermal decomposition can lead to release of irritating gases and vapors. Methanol.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

Health	Flammability	Instability	Physical hazards
3	1	0	N/A

6. Accidental release measures

Personal Precautions	Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Use personal protective equipment as required.
Environmental Precautions	Do not flush into surface water or sanitary sewer system.
Methods for Containment and Clean Up	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. Do not let this chemical enter the environment.

7. Handling and storage

Handling	Do not breathe mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Handle product
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only in closed system or provide appropriate exhaust ventilation. Wash thoroughly after handling. Do not taste or swallow.

Storage Corrosives area. Store under an inert atmosphere. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers.

8. Exposure controls / personal protection

Exposure Guidelines This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Engineering Measures Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment

Eye/face Protection Tight sealing safety goggles. Face protection shield.

Skin and body protection Wear appropriate protective gloves and clothing to prevent skin exposure. Impervious clothing. Chemical resistant apron. Boots. Impervious gloves.

Respiratory Protection Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Physical State	Liquid
Appearance	Yellow
Odor	Ammonia-like
Odor Threshold	No information available
pH	> 13
Melting Point/Range	-25 °C / -13 °F
Boiling Point/Range	102 °C / 215.6 °F @ 760 mmHg
Flash Point	> 95 °C / > 203 °F
Evaporation Rate	No information available
Flammability (solid,gas)	Not applicable
Flammability or explosive limits	
Upper	No data available
Lower	No data available
Vapor Pressure	16 mmHg (25°C)
Vapor Density	No information available
Specific Gravity	1.014
Solubility	No information available
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	No information available
Decomposition Temperature	No information available
Viscosity	3.13 cP (19°C)
Molecular Formula	C4 H13 N O
Molecular Weight	91.15

10. Stability and reactivity

Reactive Hazard None known, based on information available

Stability	Air sensitive.
Conditions to Avoid	Temperatures above 100°C. Exposure to air. Incompatible products. Exposure to air or moisture over prolonged periods.
Incompatible Materials	Strong oxidizing agents, Strong acids, Metals
Hazardous Decomposition Products	Nitrogen oxides (NOx), Carbon monoxide (CO), Carbon dioxide (CO ₂), Ammonia, Amines, Thermal decomposition can lead to release of irritating gases and vapors, Methanol
Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions	None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information

Oral LD50

Category 3. ATE = 50 - 300 mg/kg.

Dermal LD50

Category 4. ATE = 1000 - 2000 mg/kg.

Vapor LC50

Based on ATE data, the classification criteria are not met. ATE > 20 mg/l.

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Water	-	-	-
Tetramethylammonium hydroxide	LD50 34 - 50 mg/kg (Rat)	25-50 mg/kg (Rabbit)	Not listed

Toxicologically Synergistic Products

No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation

Causes burns by all exposure routes

Sensitization

No information available

Carcinogenicity

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Water	7732-18-5	Not listed	Not listed	Not listed	Not listed	Not listed
Tetramethylammonium hydroxide	75-59-2	Not listed	Not listed	Not listed	Not listed	Not listed

Mutagenic Effects

Not mutagenic in AMES Test

Reproductive Effects

No information available.

Developmental Effects

No information available.

Teratogenicity

No information available.

STOT - single exposure

Central nervous system (CNS)

STOT - repeated exposure

Thymus

Aspiration hazard

No information available

Symptoms / effects, both acute and delayed

Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

Endocrine Disruptor Information

No information available

Other Adverse Effects

The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Persistence and Degradability Soluble in water Persistence is unlikely based on information available.

Bioaccumulation/ Accumulation No information available.

Mobility . Will likely be mobile in the environment due to its water solubility.

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT

UN-No UN1835
Proper Shipping Name TETRAMETHYLAMMONIUM HYDROXIDE SOLUTION
Hazard Class 8
Packing Group II

TDG

UN-No UN1835
Proper Shipping Name TETRAMETHYLAMMONIUM HYDROXIDE SOLUTION
Hazard Class 8
Packing Group II

IATA

UN-No UN1835
Proper Shipping Name TETRAMETHYLAMMONIUM HYDROXIDE, SOLUTION
Hazard Class 8
Packing Group II

IMDG/IMO

UN-No UN1835
Proper Shipping Name TETRAMETHYLAMMONIUM HYDROXIDE SOLUTION
Hazard Class 8
Packing Group II

15. Regulatory information

United States of America Inventory

Component	CAS-No	TSCA	TSCA Inventory notification - Active/Inactive	TSCA - EPA Regulatory Flags
Water	7732-18-5	X	ACTIVE	-
Tetramethylammonium hydroxide	75-59-2	X	ACTIVE	-

Legend:

TSCA - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

TSCA 12(b) - Notices of Export Not applicable

International Inventories

Canada (DSL/NDL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Australia (AICS), China (IECSC), Korea (ECL).

Component	CAS-No	DSL	NDSL	EINECS	PICCS	ENCS	AICS	IECSC	KECL
Water	7732-18-5	X	-	231-791-2	X	X	X	X	KE-35400
Tetramethylammonium hydroxide	75-59-2	X	-	200-882-9	X	X	X	X	KE-33550

U.S. Federal Regulations

SARA 313	Not applicable
SARA 311/312 Hazard Categories	See section 2 for more information
CWA (Clean Water Act)	Not applicable
Clean Air Act	Not applicable
OSHA - Occupational Safety and Health Administration	Not applicable
CERCLA	Not applicable
California Proposition 65	This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Water	-	-	X	-	-
Tetramethylammonium hydroxide	-	X	-	-	-

U.S. Department of Transportation

Reportable Quantity (RQ):	N
DOT Marine Pollutant	N
DOT Severe Marine Pollutant	N

U.S. Department of Homeland Security	This product does not contain any DHS chemicals.
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Other International Regulations

Mexico - Grade	Slight risk, Grade 1
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16. Other information

Prepared By	Health, Safety and Environmental Department Email: tech@alfa.com www.alfa.com
Creation Date	09-Apr-2010
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Revision Summary	SDS authoring systems update, replaces ChemGes SDS No. 237.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS