

# SAFETY DATA SHEET

# spectrum®



Revision date 15-March-2021

Revision Number 1

## 1. Identification

### Product identifier

**Product Name** TETRAMETHYLAMMONIUM HYDROXIDE, 25 PERCENT SOLUTION IN WATER

### Other means of identification

**Product Code(s)** T2455

**UN/ID no** UN1835

**Synonyms** None

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

**Recommended use** No information available

**Restrictions on use** No information available

### Details of the supplier of the safety data sheet

#### Supplier Address

Spectrum Chemical Mfg. Corp.  
14422 South San Pedro St.  
Gardena, CA 90248  
(310) 516-8000

### Emergency telephone number

**Emergency Telephone** Chemtrec 1-800-424-9300

## 2. Hazard(s) identification

### Classification

Acute toxicity - Oral	Category 2
Acute toxicity - Inhalation (Vapors)	Category 2
Acute toxicity - Inhalation (Dusts/Mists)	Category 2
Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity (single exposure)	Category 1

### Hazards not otherwise classified (HNOC)

Not applicable

### Label elements

**Danger**

### Hazard statements

Fatal if swallowed

Fatal if inhaled  
Causes severe skin burns and eye damage  
Causes damage to organs



**Appearance** No information available

**Physical state** Liquid

**Odor** Ammoniacal

**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product  
Do not breathe dust/fume/gas/mist/vapors/spray  
Use only outdoors or in a well-ventilated area  
Wear respiratory protection  
Wear protective gloves/protective clothing/eye protection/face protection

**Precautionary Statements - Response**

Immediately call a POISON CENTER or doctor  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
Immediately call a POISON CENTER or doctor  
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower  
Wash contaminated clothing before reuse  
IF INHALED: Remove person to fresh air and keep comfortable for breathing  
Immediately call a POISON CENTER or doctor  
IF SWALLOWED: Immediately call a POISON CENTER or doctor  
Rinse mouth  
Do NOT induce vomiting

**Precautionary Statements - Storage**

Store locked up.  
Store in a well-ventilated place. Keep container tightly closed

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Other information**

No information available.

**3. Composition/information on ingredients**

**Substance**

Not applicable.

**Mixture**

Chemical name	CAS No	Weight-%	Trade secret
Water	7732-18-5	75	*
Tetramethylammonium Hydroxide	75-59-2	20 - 40	*

\*The exact percentage (concentration) of composition has been withheld as a trade secret.

## 4. First-aid measures

### Description of first aid measures

<b>General advice</b>	Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.
<b>Inhalation</b>	If breathing has stopped, give artificial respiration. Get medical attention immediately. Remove to fresh air. 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. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical advice/attention.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical advice/attention.
<b>Ingestion</b>	Get immediate medical advice/attention. Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person.
<b>Self-protection of the first aider</b>	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Do not breathe vapor or mist. 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. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing.

### Most important symptoms and effects, both acute and delayed

**Symptoms** Coughing and/ or wheezing. Difficulty in breathing. Burning sensation.

### Indication of any immediate medical attention and special treatment needed

**Note to physicians** Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.

## 5. Fire-fighting measures

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Large Fire</b>	CAUTION: Use of water spray when fighting fire may be inefficient.
<b>Unsuitable extinguishing media</b>	Do not scatter spilled material with high pressure water streams.
<b>Specific hazards arising from the chemical</b>	The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors.
<b>Explosion data</b>	
<b>Sensitivity to mechanical impact</b>	none.
<b>Sensitivity to static discharge</b>	none.
<b>Special protective equipment for fire-fighters</b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

## 6. Accidental release measures

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

<b>Personal precautions</b>	Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Do not breathe vapor or mist. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Attention! Corrosive material.
<b>Other information</b>	Refer to protective measures listed in Sections 7 and 8.

## **Methods and material for containment and cleaning up**

<b>Methods for containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods for cleaning up</b>	Pick up and transfer to properly labeled containers.

## **7. Handling and storage**

### **Precautions for safe handling**

<b>Advice on safe handling</b>	Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not breathe vapor or mist. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.
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### **Conditions for safe storage, including any incompatibilities**

<b>Storage Conditions</b>	Store locked up. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Protect from moisture. Store away from other materials.
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## **8. Exposure controls/personal protection**

### **Control parameters**

<b>Exposure Limits</b>	This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
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### **Appropriate engineering controls**

<b>Engineering controls</b>	Showers Eyewash stations Ventilation systems.
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### **Individual protection measures, such as personal protective equipment**

<b>Eye/face protection</b>	Tight sealing safety goggles. Face protection shield.
<b>Hand protection</b>	Wear suitable gloves. Impervious gloves.
<b>Skin and body protection</b>	Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.
<b>Respiratory protection</b>	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
<b>General hygiene considerations</b>	Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Do not breathe vapor or mist. Wear suitable gloves and eye/face protection. Remove and wash

contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended.

## 9. Physical and chemical properties

### Information on basic physical and chemical properties

Physical state	Liquid
Appearance	No information available
Color	Colorless; light yellow
Odor	Ammoniacal
Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	> 13	None known
Melting point / freezing point	-25 °C / -13 °F	None known
Boiling point / boiling range	99 - 110 °C / 210.2 - 230 °F	None known
Flash point	no data available	None known
Evaporation rate	no data available	None known
Flammability (solid, gas)	no data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	No data available	None known
Vapor density	3.14	None known
Relative density	1.02	None known
Water solubility	Soluble in water	None known
Solubility(ies)	no data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	no data available	None known
Decomposition temperature		None known
Kinematic viscosity	no data available	None known
Dynamic viscosity	No data available	None known

### Other information

Explosive properties	No information available
Oxidizing properties	No information available
Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Liquid Density	No information available
Bulk density	No information available

## 10. Stability and reactivity

Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Conditions to avoid	Excessive heat. Exposure to air or moisture over prolonged periods.
Incompatible materials	Acids. Bases. Oxidizing agent.
Hazardous decomposition products	None known based on information supplied.

## 11. Toxicological information

### Information on likely routes of exposure

## Product Information

### Inhalation

Specific test data for the substance or mixture is not available. Fatal if inhaled. (based on components). Corrosive by inhalation. Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal.

### Eye contact

Specific test data for the substance or mixture is not available. Causes serious eye damage. (based on components). Corrosive to the eyes and may cause severe damage including blindness. May cause irreversible damage to eyes.

### Skin contact

Specific test data for the substance or mixture is not available. Corrosive. (based on components). Causes burns.

### Ingestion

Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. Fatal if swallowed.

## Symptoms related to the physical, chemical and toxicological characteristics

### Symptoms

Coughing and/ or wheezing. Difficulty in breathing. Redness. Burning. May cause blindness.

## Acute toxicity

### Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document .

## Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Water 7732-18-5	> 90 mL/kg ( Rat )	-	-
Tetramethylammonium Hydroxide 75-59-2	34 - 50 mg/kg ( Rat )	= 112 mg/kg ( Rat )	-

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

### Skin corrosion/irritation

Classification based on data available for ingredients. Causes burns.

### Serious eye damage/eye irritation

Classification based on data available for ingredients. Risk of serious damage to eyes. Causes burns.

### Respiratory or skin sensitization

No information available.

### Germ cell mutagenicity

No information available.

### Reproductive toxicity

No information available.

### STOT - single exposure

Based on the classification criteria of the Globally Harmonized System as adopted in the country or region with which this safety data sheet complies, this product has been determined to cause systemic target organ toxicity from acute exposure. (STOT SE). Causes damage to organs if swallowed.

### STOT - repeated exposure

No information available.

### Aspiration hazard

No information available.

### Other adverse effects

No information available.

### Interactive effects

No information available.

## 12. Ecological information

<b>Ecotoxicity</b>	The environmental impact of this product has not been fully investigated.
<b>Persistence and degradability</b> <b>Bioaccumulation</b>	No information available. Inherently biodegradable.
<b>Other adverse effects</b>	No information available.

## 13. Disposal considerations

### Waste treatment methods

<b>Waste from residues/unused products</b>	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
<b>Contaminated packaging</b>	Do not reuse empty containers.

## 14. Transport information

### DOT

<b>UN/ID no</b>	UN1835
<b>Proper Shipping Name:</b>	Tetramethylammonium hydroxide solution
<b>Hazard class</b>	8
<b>Packing group:</b>	II
<b>Special Provisions</b>	B2, IB2, T7, TP2
<b>Marine Pollutant</b>	Severe Marine Pollutant
<b>Description:</b>	UN1835, Tetramethylammonium hydroxide solution, 8, II
<b>Emergency Response Guide Number</b>	153

### TDG

<b>UN-No:</b>	UN1835
<b>Proper Shipping Name:</b>	Tetramethylammonium hydroxide solution
<b>Hazard class</b>	8
<b>Packing Group:</b>	II
<b>Description:</b>	UN1835, Tetramethylammonium hydroxide solution, 8, II

### MEX

<b>UN-No</b>	UN1835
<b>Proper Shipping Name</b>	Tetramethylammonium hydroxide solution
<b>Hazard class</b>	8
<b>Packing Group</b>	II
<b>Description</b>	UN1835, Tetramethylammonium hydroxide solution, 8, II

### ICAO (air)

<b>UN-No:</b>	UN1835
<b>Proper Shipping Name:</b>	Tetramethylammonium hydroxide solution
<b>Hazard class</b>	8
<b>Packing Group:</b>	II
<b>Special Provisions</b>	A3
<b>Description:</b>	UN1835, Tetramethylammonium hydroxide solution, 8, II

### IATA

<b>UN number</b>	UN1835
<b>Proper Shipping Name:</b>	Tetramethylammonium hydroxide, solution
<b>Transport hazard class(es)</b>	8
<b>Packing group</b>	II
<b>Description:</b>	UN1835, Tetramethylammonium hydroxide, solution, 8, II

**IMDG**

<b>UN number</b>	UN1835
<b>Proper shipping name</b>	Tetramethylammonium hydroxide solution
<b>Transport hazard class(es)</b>	8
<b>Packing group</b>	II
<b>EmS-No</b>	F-A, S-B
<b>Marine pollutant</b>	NP1
<b>Description</b>	UN1835, Tetramethylammonium hydroxide solution, 8, II

**RID**

<b>UN number</b>	UN1835
<b>Proper Shipping Name:</b>	Tetramethylammonium hydroxide solution
<b>Transport hazard class(es)</b>	8
<b>Packing group</b>	II
<b>Classification code</b>	C7
<b>Description:</b>	UN1835, Tetramethylammonium hydroxide solution, 8, II
<b>Labels</b>	8

**ADR**

<b>UN number</b>	1835
<b>Proper Shipping Name:</b>	Tetramethyl-ammonium hydroxide solution
<b>Transport hazard class(es)</b>	8
<b>Packing group</b>	II
<b>Classification code</b>	C7
<b>Tunnel restriction code</b>	(E)
<b>Description:</b>	1835, Tetramethyl-ammonium hydroxide solution, 8, II, (E)
<b>Labels</b>	8

**ADN**

<b>UN/ID No</b>	UN1835
<b>Proper shipping name</b>	Tetramethylammonium hydroxide, solution
<b>Transport hazard class(es)</b>	8
<b>Packing Group</b>	II
<b>Classification code</b>	C7
<b>Description</b>	UN1835, Tetramethylammonium hydroxide, solution, 8, II
<b>Hazard label(s)</b>	8
<b>Limited quantity (LQ)</b>	1 L
<b>Equipment Requirements</b>	PP, EP

**15. Regulatory information****International Inventories**

<b>TSCA</b>	Complies
<b>DSL/NDSL</b>	Complies
<b>EINECS/ELINCS</b>	Complies
<b>ENCS</b>	This product complies with ENCS:
<b>IECSC</b>	This product complies with China:
<b>KECL</b>	Complies
<b>PICCS</b>	Complies
<b>AICS</b>	All the constituents of this material are listed on the Australian Inventory of Chemical Substances (AICS).

**Legend:**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
**ENCS** - Japan Existing and New Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances



## US Federal Regulations

### **SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

### **SARA 311/312 Hazard Categories**

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

### **CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

### **CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

## US State Regulations

### **California Proposition 65**

This product does not contain any Proposition 65 chemicals.

### **U.S. State Right-to-Know Regulations**

This product does not contain any substances regulated under applicable state right-to-know regulations

## U.S. EPA Label Information

**EPA Pesticide Registration Number** Not applicable

## **16. Other information**

### **NFPA**

**Health hazards** 4

**Flammability** 0

**Instability** 0

**Physical and chemical properties** -

### **HMIS**

**Health hazards** 4 \*

**Flammability** 0

**Physical hazards** 0

**Personal protection** X

*Chronic Hazard Star Legend*

*\* = Chronic Health Hazard*

### **Key or legend to abbreviations and acronyms used in the safety data sheet**

#### **Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA TWA (time-weighted average)

STEL

STEL (Short Term Exposure Limit)

Ceiling Maximum limit value

### **Key literature references and sources for data used to compile the SDS**

Agency for Toxic Substances and Disease Registry (ATSDR)

U.S. Environmental Protection Agency ChemView Database

European Food Safety Authority (EFSA)

EPA (Environmental Protection Agency)

Acute Exposure Guideline Level(s) (AELG(s))

U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act  
U.S. Environmental Protection Agency High Production Volume Chemicals  
Food Research Journal  
Hazardous Substance Database  
International Uniform Chemical Information Database (IUCLID)  
Japan GHS Classification  
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)  
NIOSH (National Institute for Occupational Safety and Health)  
National Library of Medicine's ChemID Plus (NLM CIP)  
National Library of Medicine's PubMed database (NLM PUBMED)  
National Toxicology Program (NTP)  
New Zealand's Chemical Classification and Information Database (CCID)  
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications  
Organization for Economic Co-operation and Development High Production Volume Chemicals Program  
Organization for Economic Co-operation and Development Screening Information Data Set  
World Health Organization

**Revision date** 15-March-2021  
**Revision Note** No information available.

**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 Safety Data Sheet**