

SAFETY DATA SHEET

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

TMAH

SECTION 1. Identification of the substance/mixture and of the company

1.1 Product identifier TMAH

1.2 Relevant identified uses of the product and uses advised against

Intended use: Professional use. Electronics chemical.

1.3 Details of the supplier of the safety data sheet

Manufacturer: Sunchem AB

Postadress: Box 69
SE - 433 21 Partille

Land: Sverige

Telefon +46-31-447310

E-mail: purchasing@sunco.se

1.4 Telephone emergency number:

In case of emergency, contact toxicological information, emergency tel 112.

For non-emergency poison information, see:

http://www.who.int/gho/phe/chemical_safety/poisons_centres/en/

SECTION 2. Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 (CLP)

Acute Tox. 3; H301
Acute Tox. 1; H310
Skin Corr. 1A; H314
Eye Dam. 1; H318
STOT SE 1; H370
STOT RE 1; H372
Aquatic Chronic 2; H411

2.2 Label elements

Classification according to regulation (EC) No. 1272/2008 (CLP)

Pictogram(s)**Signal word**

Danger

Hazard statements**H301** Toxic if swallowed.**H310** Fatal in contact with skin.**H314** Causes severe skin burns and eye damage.**H370** Causes damage to organs.**H372** Causes damage to organs through prolonged or repeated exposure.**H411** Toxic to aquatic life with long lasting effects.**Precautionary statements**

P262 Do not get in eyes, on skin, or on clothing.

P264 Wash hands thoroughly after handling.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P301 + 310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P321 Specific treatment (see supplementary first aid instructions on the label).

P303 + 361 + 353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P361 + P364 Remove/Take off contaminated clothing and wash it before reuse.

P405 Store locked up.

P501 Dispose of contents/ container in accordance with national regulations.

Contains

Tetramethylammonium hydroxide (TMAH)

2.3 Other hazards

This mixture does not contain any substances that meets the criteria for PBT or vPvB in accordance with Regulation (EC) No. 1907/2006, Annex XIII.

This mixture does not contain substances at $\geq 0,1\%$ with endocrine disrupting properties in accordance with the criteria of the Delegated Regulation (EU) 2017/2100 of the Commission or Regulation (EU) 2018/605 of the Commission.

SECTION 3. Composition/information on ingredients

3.2 Mixtures**Declaration of components according to Regulation (EC) No. 1272/2008**

Chemical name	CAS No. EC No.	REACH Reg. No. Index No.	Conc. %	Classification
Tetramethylammonium hydroxide (TMAH)	75-59-2 200-882-9	01-2119970562-34 -	10-25	Acute Tox. 2 (Oral), H300 Acute Tox. 1 (Dermal), H310 Skin Corr. 1A, H314 Eye Dam. 1, H318 STOT SE 1, H370 STOT RE 1, H372 Aquatic Chronic 2, H411

For full text of the H-statements see section 16 "Other information".

SECTION 4. First aid measures

4.1 Description of first aid measures

General:	In the least doubt or if symptoms persist, seek medical attention.
Inhalation:	Call a poison center or a doctor if you feel unwell. Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
Skin contact:	Wash with plenty of soap and water. Take off immediately all contaminated clothing. Get medical attention if any discomfort continues. Chemical burns must be treated by a physician. Rinse skin with water/shower. Immediately call a POISON CENTER/doctor.
Eye contact:	Get medical advice/attention if you feel unwell. Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyelids widely. If irritation persists: Continue flushing during transport to hospital. Bring these instructions. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
Ingestion:	DO NOT induce vomiting. Get medical attention immediately. Rinse nose, mouth and throat with water. Drink plenty of water. Get medical attention immediately!. Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation	: Irritation (cough, shortness of breath, difficulty breathing).
Symptoms/effects after skin contact	: Fatal in contact with skin.
Symptoms/effects after eye contact	: Causes serious eye damage.
Symptoms/effects after ingestion	: Toxic if swallowed.

4.3 Indication of any immediate medical attention and special treatment needed

Symptomatic treatment. Consult a doctor and show this safety data sheet.

SECTION 5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: Use water fog, alcohol resistant foam, powder, or carbon dioxide.

Unsuitable extinguishing media: Water with a full water jet.

5.2 Special hazards arising from the substance or mixture

Non flammable.

Explosion hazard : Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.

Hazardous decomposition products in case of : Very corrosive gases/vapours/fumes.

5.3 Advice to firefighters

Do not enter fire area without proper personal protective equipment, including respiratory protection.

Exercise caution when fighting any chemical fire. Containers close to fire should be removed immediately or cooled with water. Fight fire remotely due to the risk of explosion.

Protection during firefighting : Wear self-contained breathing apparatus (SCBA) to prevent contact with thermal decomposition products.

SECTION 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation, especially in confined areas. Avoid contact with skin and eyes. Use personal protective equipment as required. Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).

Wear appropriate personal protective equipment - see Section 8.
Keep public away from danger area.

Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2 Environmental precautions

Avoid discharges to soil, water or air. Prevent discharges into sewers.

6.3 Methods and material for containment and cleaning up

Dispose of at a licensed waste collection centre.

Take up liquid spill into absorbent material. Post clean with water. Never pour spill back in original packaging for reuse.

Dispose of materials or solid residues at an authorized site.

6.4 Reference to other sections

See Section 8 for personal protection and Section 13 for disposal considerations, respectively.

SECTION 7. Handling and storage

7.1 Precautions for safe handling

Toxic storage.

Do not breathe vapours, mist.

Avoid spilling, skin and eye contact.. Use only well-ventilated area. Ensure adequate ventilation.

Hygiene measures:

Do not eat, drink or smoke when using this product. Wash hands, forearms and face thoroughly after handling.

Wash contaminated clothing before reuse.

7.2 Conditions for safe storage, including any incompatibilities

Comply with applicable regulations.

Storage temperature: 0-40°C

7.3 Specific end use(s)

See Section 1.2.

SECTION 8. Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

The national occupational exposure limit values that correspond to Union occupational exposure limit values in accordance with Directive 98/24/EC, including any notations as referred to in Article 2(3) of Commission Decision 2014/113/EU(5);EH40 2020:

No specific values are available.

8.2 Exposure control

Assigned personal protection equipment is a guideline. A risk assessment of actual risks may lead to other requirements.

8.2.1 Engineering controls

Work in a well-ventilated area. Mechanical ventilation of local exhaust may be required.

Eye wash facilities and emergency shower must be available when handling this product.

8.2.2 Personal protection

Do not eat, drink or smoke when using this product. Wash hands after handling.



8.2.2.1 Eye protection

Wear protective goggles according EN standard 166.

8.2.2.2 Hand protection

Use protective gloves according EN standard 374. Recommended glove barrier materials include nitrile rubber.

Layer thickness: Nitrile rubber: >0,40 mm. Breakthrough time: >480 minutes.

Skin protection

In case of handling large quantities or in the event of spatter, wear protective clothes, i.e. an apron.

8.2.2.3 Respiratory protection

In case of inadequate ventilation, respiratory protection according EN standard 149 and EN 14387 (full-face mask with gas filter type E) or breathing apparatus may be required.

8.2.2.4 Thermal hazard

No thermal hazard.

8.3 Environmental exposure control

See Section 6.2.

SECTION 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

a	Physical state	Liquid
b	Colour	Colourless
c	Odour/odour threshold	Characteristic
d	Melting point/Freezing point	No data available/not applicable
e	Initial boiling point/boiling range	No data available/not applicable
f	Flammability (solid, gas)	No data available/not applicable
g	Lower and upper explosion limit	No data available/not applicable
h	Flash point	No data available/not applicable
i	Auto-ignition temperature	No data available/not applicable
j	Decomposition temperature	No data available/not applicable
k	pH	No data available/not applicable
l	Kinematic viscosity	No data available/not applicable
m	Solubility	Very soluble in water
n	Partition coefficient (n-octanol/water)	No data available/not applicable
o	Vapour pressure	No data available/not applicable
p	Density and/or relative density	1,04 g/cm ³

q	Relative vapour density	No data available/not applicable
r	Particle characteristics	No data available/not applicable

9.2 Other information

No more specific or information about safety characteristics.

SECTION 10. Stability and reactivity

10.1 Reactivity

Thermal decomposition generates : Corrosive vapours.

10.2 Chemical stability

Stable under recommended storage and usage conditions.

10.3 Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4 Conditions to avoid

None known.

10.5 Incompatible materials

None known.

10.6 Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Thermal decomposition generates : Corrosive vapours.

SECTION 11. Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

No toxicological tests have been performed on the product. The product is classified as toxic if swallowed and fatal in contact with skin.

ATEoral: 200-1400

ATEdermal: 200-800

General toxicological information

Hazardous components CAS no.	Value Type	Value	Route of exposure	Exposure time	Species	Method
Tetramethylammonium hydroxide (TMAH)	LD50	50-350 mg/kg	Oral		Rat	
Tetramethylammonium hydroxide (TMAH)	LD50	50-200 mg/kg	Dermal		Rabbit	

Classification according to GHS (1272/2008/EC, CLP)

Acute toxicity:	Toxic if swallowed. Fatal in contact with skin.
Skin corrosion/irritation:	Causes severe skin burns and eye damage.
Serious eye damage/eye irritation:	Causes serious eye damage.
Respiratory or skin sensitization:	Not classified
Germ cell mutagenicity:	Not classified
Carcinogenicity:	Not classified
Reproductive toxicity:	Not classified
STOT – single exposure:	Causes damage to organs
STOT – repeated exposure:	Causes damage to organs through prolonged or repeated exposure.
Aspiration hazard:	Not classified

11.2 Information on other hazards

This mixture does not contain substances at $\geq 0,1\%$ with endocrine disrupting properties in accordance with the criteria of the Delegated Regulation (EU) 2017/2100 of the Commission or Regulation (EU) 2018/605 of the Commission.

SECTION 12. Ecological information

12.1 Toxicity

This product is classified as very toxic to aquatic life.

Specific values of LC50 is not available.

12.2 Persistence and degradability

Components are biodegradable

12.3 Bioaccumulative potential

No bioaccumulation Log Pow: not determined.

12.4 Mobility in soil

Components are water soluble and may spread in water system and soil.

12.5 Results of PBT and vPvB assessment

The substance/mixture does not fulfil the criteria to be identified as PBT substance or vPvB substance.

12.6 Endocrine disrupted properties

This mixture does not contain substances at $\geq 0,1\%$ with endocrine disrupting properties in accordance with the criteria of the Delegated Regulation (EU) 2017/2100 of the Commission or Regulation (EU) 2018/605 of the Commission.

12.7 Other adverse effects

No data available.

SECTION 13. Disposal considerations

13.1 Waste treatment methods

Dispose according to Directive 2008/98/EC on waste (Waste Framework Directive) and in compliance with local and national legislation. Do not allow to enter sewers. Transfer to a waste container and send for destruction.

Packaging may still contain hazardous residues and disposal should be undertaken by a licensed waste contractor. Any disposal practice must comply with local and national laws and regulations.

Suggested EWC codes

06 02 03* - ammonium hydroxide

SECTION 14. Transport information

14.1 UN number

ADR	1835
RID	1835
IMDG	1835
ICAO/IATA	1835

14.2 UN proper shipping name

ADR	TETRAMETHYLAMMONIUM HYDROXIDE SOLUTION
RID	TETRAMETHYLAMMONIUM HYDROXIDE SOLUTION
IMDG	TETRAMETHYLAMMONIUM HYDROXIDE SOLUTION
ICAO/IATA	TETRAMETHYLAMMONIUM HYDROXIDE SOLUTION

14.3 Transport hazard class(es)



ADR 8

RID	8
ADN	8
IMDG	8
ICAO/IATA	8

14.4 Packaging group

ADR	II
RID	II
IMDG	II
ICAO/IATA	II

14.5 Environmental hazards

ADR	YES
RID	YES
IMDG	YES
ICAO/IATA	YES

14.6. Special precautions for user

LQ: 1 L
Tunnel: E

14.7 Maritime transport in bulk according to IMO instruments.

Not applicable

SECTION 15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Regulation (EC) No 1272/2008 (CLP) of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures. Latest update of legal requirements 23/10/2024 of CLP regulation.

Regulation (EC) No 1907/2006 (REACH) of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC. Latest update 28th nov 2024.

Regulation (EU) 2020/878 of the European Commission, supplement for REACH appendix II.

The national occupational exposure limit values that correspond to Union occupational exposure limit values in accordance with Directive 98/24/EC, including any notations as referred to in Article 2(3) of Commission Decision 2014/113/EU(5); EH40/2005: Workplace exposure limits updates 2020.

15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out.

SECTION 16. Other information

Version: 6.0 (according swedish SDS)

New EU regulations (REACH/CLP) according SDS content/sections/tables and new SDS from raw data.

Explanations to abbreviations in Section 3

H301 Toxic if swallowed.

H310 Fatal in contact with skin.

H314 Causes severe skin burns and eye damage.

H370 Causes damage to organs.

H372 Causes damage to organs through prolonged or repeated exposure.

H411 Toxic to aquatic life with long lasting effects.

Explanations to abbreviations in Section 14

ADR	European Agreement Concerning the International Carriage of Dangerous Goods by Road
RID	Règlement concernant le transport international ferroviaire de marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by rail)
IMDG	IMDG code (International Maritime Dangerous Goods Code)
ICAO	International Civil Aviation Organization (ICAO, 999 University Street, Montreal, Quebec H3C 5H7, Canada)
IATA	International Air Transport Association

This safety data sheet has been produced and reviewed by Chemgroup Scandinavia AB.