

# SAFETY DATA SHEET

Date Accessed: 04/19/2024

Date Revised: 01/15/2022

## SECTION 1. IDENTIFICATION

**Product Name:** Thulium Sulfate Solution

**Product Number:** All applicable American Elements product codes, e.g. TM-SAT-02-SOL , TM-SAT-03-SOL , TM-SAT-04-SOL , TM-SAT-05-SOL

**CAS #:** 13778-40-0

**Relevant identified uses of the substance:** Scientific research and development

**Supplier details:**

American Elements  
10884 Weyburn Ave.  
Los Angeles, CA 90024  
Tel: +1 310-208-0551  
Fax: +1 310-208-0351

**Emergency telephone number:**

+1 800-424-9300

## SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS)  
GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

STOT SE 3 H335 May cause respiratory irritation.

Hazards not otherwise classified No data available.

GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)



Hazard pictograms

GHS07

Signal word Warning

Hazard statements

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

Precautionary statements

P261 Avoid breathing dust/fume/gas/mist/vapors/spray.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P405 Store locked up.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.  
WHMIS classification  
D2B - Toxic material causing other toxic effects  
Classification system  
HMIS ratings (scale 0-4)  
(Hazardous Materials Identification System)  
HEALTH  
FIRE  
REACTIVITY  
1  
0  
1  
Health (acute effects) = 1  
Flammability = 0  
Physical Hazard = 1  
Other hazards  
Results of PBT and vPvB assessment:  
PBT: N/A.  
vPvB: N/A.

---

### **SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substances  
CAS No. / Substance Name:  
13778-40-0 Thulium(III) sulfate octahydrate  
Identification number(s):  
EC number: 243-996-4

---

### **SECTION 4. FIRST AID MEASURES**

Description of first aid measures  
If inhaled:  
Supply fresh air. If not breathing, provide artificial respiration. Keep patient warm.  
Seek immediate medical advice.  
In case of skin contact:  
Immediately wash with soap and water; rinse thoroughly.  
Seek immediate medical advice.  
In case of eye contact: Rinse opened eye for several minutes under running water. Consult a physician.  
If swallowed: Seek medical treatment.  
Information for doctor  
Most important symptoms and effects, both acute and delayed No information available.  
Indication of any immediate medical attention and special treatment needed No information available.

---

## SECTION 5. FIREFIGHTING MEASURES

Extinguishing media

Suitable extinguishing media Product is not flammable. Use fire-fighting measures that suit the surrounding fire.

Special hazards arising from the substance or mixture

If this product is involved in a fire, the following can be released:

Sulfur oxides (SO<sub>x</sub>)

Metal oxide fume

Advice for firefighters

Protective equipment:

Wear self-contained respirator.

Wear fully protective impervious suit.

---

## SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Environmental precautions: Do not allow material to be released to the environment without official permits.

Methods and material for containment and cleanup: Ensure adequate ventilation.

Prevention of secondary hazards: No special measures required.

Reference to other sections

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

---

## SECTION 7. HANDLING AND STORAGE

Handling

Precautions for safe handling

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure adequate ventilation.

Information about protection against explosions and fires: The product is not flammable

Conditions for safe storage, including any incompatibilities

Storage

Requirements to be met by storerooms and receptacles: No special requirements.

Information about storage in one common storage facility:

Store away from oxidizing agents.

Store away from water/moisture.

Further information about storage conditions:

This product is hygroscopic.

Store under dry inert gas.

Keep container tightly sealed.

Store in cool, dry conditions in well-sealed containers.

Protect from humidity and water.

Specific end use(s) No information available.

---

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Additional information about design of technical systems:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Control parameters

Components with limit values that require monitoring at the workplace: Not required.

Additional information: No data

Exposure controls

Personal protective equipment

Follow typical general protective and industrial hygiene measures for handling chemicals.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Breathing equipment: Use suitable respirator when high concentrations are present.

Protection of hands:

Impervious gloves

Inspect gloves prior to use.

The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.

Penetration time of glove material (in minutes) No data available.

Eye protection: Safety glasses

Body protection: Protective work clothing.

---

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance:

Form: Powder

Color: Light green

Odor: No data available.

Odor threshold: No data available.

pH: N/A.

Melting point/range: No data available.

Boiling point/range: No data available.

Sublimation temperature / start: No data available.

Flash point: N/A

Flammability (solid, gas): No data available.

Ignition temperature: No data available.

Decomposition temperature: No data available.

Auto igniting: No data available.

Danger of explosion: Product does not present an explosion hazard.

Explosion limits:

Lower: No data available.

Upper: No data available.

Vapor pressure: N/A.

Density: No data available.

Relative density No data available.

Vapor density N/A.

Evaporation rate N/A.

Solubility in / Miscibility with  
Water: No data available.  
Partition coefficient (n-octanol/water): No data available.  
Viscosity:  
Dynamic: N/A.  
Kinematic: N/A.  
Other information No information available.

---

## **SECTION 10. STABILITY AND REACTIVITY**

Reactivity No data available.  
Chemical stability Stable under recommended storage conditions.  
Thermal decomposition / conditions to be avoided: Decomposition will not occur if used and stored according to specifications.  
Possibility of hazardous reactions No dangerous reactions known  
Conditions to avoid No information available.  
Incompatible materials:  
Oxidizing agents  
Water/moisture  
Hazardous decomposition products:  
Sulfur oxides (SO<sub>x</sub>)  
Metal oxide fume

---

## **SECTION 11. TOXICOLOGICAL INFORMATION**

Information on toxicological effects  
Acute toxicity: N/A  
LD/LC50 values that are relevant for classification: No data  
Skin irritation or corrosion: Causes skin irritation.  
Eye irritation or corrosion: Causes serious eye irritation.  
Sensitization: No sensitizing effects known.  
Germ cell mutagenicity: N/A  
Carcinogenicity: No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.  
Reproductive toxicity: N/A  
Specific target organ system toxicity - repeated exposure: N/A  
Specific target organ system toxicity - single exposure: May cause respiratory irritation.  
Aspiration hazard: N/A  
Subacute to chronic toxicity:  
Lanthanons can cause delayed blood clotting leading to hemorrhages. Exposure may also lead to sensitivity to heat, itching, increased awareness of odor and taste, and liver damage.  
Subacute to chronic toxicity: N/A  
Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

---

## **SECTION 12. ECOLOGICAL INFORMATION**

Toxicity  
Aquatic toxicity: No information available.

Persistence and degradability: No information available.

Bioaccumulative potential: No information available.

Mobility in soil: No information available.

Additional ecological information:

General notes:

Do not allow material to be released to the environment without official permits.

Do not allow undiluted product or large quantities to reach ground water, water course or sewage system.

Avoid transfer into the environment.

Results of PBT and vPvB assessment:

PBT: N/A.

vPvB: N/A.

Other adverse effects No information available.

---

## **SECTION 13. DISPOSAL CONSIDERATIONS**

Waste treatment methods

Recommendation: Consult state, local or national regulations to ensure proper disposal.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

---

## **SECTION 14. TRANSPORT INFORMATION**

Not a hazardous material for transportation.

UN-Number

DOT, IMDG, IATA None

UN proper shipping name

DOT, IMDG, IATA None

Transport hazard class(es)

DOT, ADR, IMDG, IATA

Class None

Packing group

DOT, IMDG, IATA None

Environmental hazards: N/A.

Special precautions for user N/A.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code N/A.

Transport/Additional information: Not dangerous according to the above specifications.

DOT

Marine Pollutant (DOT): No

---

## **SECTION 15. REGULATORY INFORMATION**

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

GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)

Hazard pictograms

GHS07

Signal word Warning

Hazard statements

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

Precautionary statements

P261 Avoid breathing dust/fume/gas/mist/vapors/spray.

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

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

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P405 Store locked up.

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

National regulations

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

All components of this product are listed on the Canadian Non-Domestic Substances List (NDSL).

SARA Section 313 (specific toxic chemical listings) Substance is not listed.

California Proposition 65

Prop 65 - Chemicals known to cause cancer Substance is not listed.

Prop 65 - Developmental toxicity Substance is not listed.

Prop 65 - Developmental toxicity, female Substance is not listed.

Prop 65 - Developmental toxicity, male Substance is not listed.

Information about limitation of use: For use only by technically qualified individuals.

Other regulations, limitations and prohibitive regulations

Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006. Substance is not listed.

The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.

Substance is not listed.

Annex XIV of the REACH Regulations (requiring Authorisation for use) Substance is not listed.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

---

## SECTION 16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.