Thallium Sulfate	Pricing >
Thallium Sulfate Nanoparticles	Pricing >
Thallium Sulfate Solution	Pricing >

Linear Formula	Tl_2SO_4
Pubchem CID	24833
MDL Number	MFCD00011278
EC No.	231-201-3
IUPAC Name	thallium(+1); sulfate
Beilstein/Reaxys No.	N/A
SMILES	[Tl+].[Tl+].[O-]S([O-])(=O)=O
Inchl Identifier	InChI=1S/H2O4S.2Tl/c1-5(2,3)4;;/h(H2,1,2,3,4);;/q;2*+1/p-2
Inchl Key	YTQVHRVITVLIRD-UHFFFAOYSA-L
Signal Word	Danger
Hazard Statements	H300-H315-H372
Hazard Codes	T+, Xi, N
Precautionary Statements	P260-P280g-P301+P310a-P321-P405-P501a
Risk Codes	28-38-48/25-51/53
Safety Statements	13-36/37-45-61
RTECS Number	XG6800000
Transport Information	UN 1707 6.1/PG II
WGK Germany	3
GHS Pictograms	**GHS06 Skull and Crossbones**  **GHS07 Exclamation Point**  **GHS08 Health Hazard** 

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SAFETY DATA SHEET

Date Accessed: 03/28/2024

SECTION 1. IDENTIFICATION

Product Identifiers: All applicable American Elements product codes for CAS #7446-18-6

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:
Domestic, North America +1 800-424-9300
International +1 703-527-3887

SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008
GHS06 Skull and crossbones
Acute Tox. 2 H300 Fatal if swallowed.
GHS08 Health hazard
STOT RE 1 H372 Causes damage to the liver, the digestive system and the blood through prolonged or repeated exposure. Route of exposure: Oral.
GHS07
Skin Irrit. 2 H315 Causes skin irritation.
Classification according to Directive 67/548/EEC or Directive 1999/45/EC
T+; Very toxic
R28: Very toxic if swallowed.
T; Toxic
R48/25: Toxic: danger of serious damage to health by prolonged exposure if swallowed.
Xi; Irritant
R38: Irritating to skin.
N; Dangerous for the environment
R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Information concerning particular hazards for human and environment:
N/A
Hazards not otherwise classified
No data available
Label elements
Labelling according to Regulation (EC) No 1272/2008

The substance is classified and labeled according to the CLP regulation.
Hazard pictograms



GHS06
GHS08
Signal word
Danger
Hazard statements
H300 Fatal if swallowed.
H315 Causes skin irritation.
H372 Causes damage to the liver, the digestive system and the blood through prolonged or repeated exposure. Route of exposure: Oral.
Precautionary statements
P260 Do not breathe dust/fume/gas/mist/vapors/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor/...
P362 Take off contaminated clothing.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
WHMIS classification
D1A - Very toxic material causing immediate and serious toxic effects
D2A - Very toxic material causing other toxic effects
Classification system
HMIS ratings (scale 0-4)
(Hazardous Materials Identification System)
HEALTH
FIRE
REACTIVITY
3
0
1
Health (acute effects) = 3
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:
7446-18-6 Thallium(I) sulfate
Identification number(s):
EC number:
231-201-3
Index number:
081-003-00-4

SECTION 4. FIRST AID MEASURES

Description of first aid measures
General information
Immediately remove any clothing soiled by the product.
In case of irregular breathing or respiratory arrest provide artificial respiration.
If inhaled:
Supply patient with 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:
Do not induce vomiting; immediately call for medical help.
Information for doctor
Most important symptoms and effects, both acute and delayed
No data available
Indication of any immediate medical attention and special treatment needed
No data available

SECTION 5. FIREFIGHTING MEASURES

Extinguishing media
Suitable extinguishing agents
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 (SOx)

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
Use personal protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Environmental precautions:
Do not allow material to be released to the environment without official permits.
Do not allow product to enter drains, sewage systems, or other water courses.
Do not allow material to penetrate the ground or soil.
Methods and materials for containment and cleanup:
Dispose of contaminated material as waste according to section 13.
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 good ventilation at the workplace.
Information about protection against explosions and fires:
The product is not flammable
Conditions for safe storage, including any incompatibilities
Requirements to be met by storerooms and receptacles:
No special requirements.
Information about storage in one common storage facility:
Do not store together with acids.
Store away from oxidizing agents.
Further information about storage conditions:

Keep container tightly sealed.
Store in cool, dry conditions in well-sealed containers.
Specific end use(s)
No data 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:
7446-18-6 Thallium(I) sulfate (100.0%)

PEL (USA) Long-term value: 0.1 mg/m^3
as Tl; Skin

REL (USA) Long-term value: 0.1 mg/m^3
as Tl; Skin

TLV (USA) Long-term value: 0.02* mg/m^3
as Tl; *inhalable fraction; Skin

EL (Canada) Long-term value: 0.1 mg/m^3
as Tl; Skin
Additional information:
No data
Exposure controls
Personal protective equipment
Follow typical protective and hygienic practices 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.
Maintain an ergonomically appropriate working environment.
Breathing equipment:
Use suitable respirator when high concentrations are present.
Recommended filter device for short term use:
Use a respirator with type P100 (USA) or P3 (EN 143) cartridges as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards.
Protection of hands:
Impervious gloves
Inspect gloves prior to use.

Suitability of gloves should be determined both by material and quality, the latter of which may vary by manufacturer.
Material of gloves
Neoprene
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: Crystalline
Color: White to off-white
Odor: Odorless
Odor threshold: No data available.
pH: N/A
Melting point/Melting range: 632 °C (1170 °F)
Boiling point/Boiling range: No data available
Sublimation temperature / start: No data available
Flammability (solid, gas)
No data available.
Ignition temperature: 730 °C (1346 °F)
Decomposition temperature: No data available
Autoignition: No data available.
Danger of explosion: No data available.
Explosion limits:
Lower: No data available
Upper: No data available
Vapor pressure: N/A

Density at 20 °C (68 °F): 6.77 g/cm^3 (56.496 lbs/gal)
Relative density
No data available.
Vapor density
N/A
Evaporation rate
N/A
Solubility in / Miscibility with Water at 20 °C (68 °F): 48.7 g/l
Partition coefficient (n-octanol/water): No data available.
Viscosity:
Dynamic: N/A
Kinematic: N/A
Other information
No data 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
Reacts with strong oxidizing agents
Conditions to avoid
No data available
Incompatible materials:
Acids
Oxidizing agents
Hazardous decomposition products:
Sulfur oxides (SOx)
Metal oxide fume

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects
Acute toxicity:
Fatal if swallowed.
The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity
data for this substance.
LD/LC50 values that are relevant for classification:
Oral LD50 16 mg/kg (rat)
Dermal LD50 550 mg/kg (rat)
Skin irritation or corrosion:
Causes skin irritation.
Eye irritation or corrosion:
May cause irritation
Sensitization:
No sensitizing effects known.
Germ cell mutagenicity:
No effects known.
Carcinogenicity:
EPA-II: Inadequate information to access carcinogenic potential.
Reproductive toxicity:
The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for this substance.
Specific target organ system toxicity - repeated exposure:
Causes damage to the liver, the digestive system and the blood through prolonged or repeated exposure.

Route of exposure: Oral.
Specific target organ system toxicity - single exposure:
No effects known.
Aspiration hazard:
No effects known.
Subacute to chronic toxicity:
The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance.
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 data available
Persistence and degradability
No data available
Bioaccumulative potential
No data available
Mobility in soil
No data available
Additional ecological information:
Do not allow product to reach groundwater, water courses, or sewage systems.
Do not allow material to be released to the environment without official permits.
Danger to drinking water if even small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Toxic to aquatic life.
May cause long lasting harmful effects to aquatic life.
Avoid transfer into the environment.
Results of PBT and vPvB assessment
PBT:
N/A
vPvB:
N/A
Other adverse effects
No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods
Recommendation
Consult official regulations to ensure proper disposal.
Uncleaned packagings:

Recommendation:
Disposal must be made according to official regulations.

SECTION 14. TRANSPORT INFORMATION

UN-Number
DOT, IMDG, IATA
UN1707
UN proper shipping name
DOT
Thallium compounds, n.o.s. (Thallium(I) sulfate)
IMDG
THALLIUM COMPOUND, N.O.S. (Thallium(I) sulfate), MARINE POLLUTANT
IATA
THALLIUM COMPOUND, N.O.S. (Thallium(I) sulfate)
Transport hazard class(es)
DOT
Class
6.1 Toxic substances.
Label
6.1
Class
6.1 (T5) Toxic substances
Label
6.1
IMDG
Class
6.1 Toxic substances.
Label
6.1
IATA
Class
6.1 Toxic substances.
Label
6.1
Packing group
DOT, IMDG, IATA
II
Environmental hazards: Environmentally hazardous substance, solid; Marine Pollutant
Marine pollutant (IMDG): Yes (P)
Symbol (fish and tree)
Special precautions for user
Warning: Toxic substances
EMS Number: F-A,S-A
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
N/A
Transport/Additional information: DOT
Marine Pollutant (DOT): No
Remarks: Special marking with the symbol (fish and

tree).
UN "Model Regulation":
UN1707, Thallium compounds, n.o.s. (Thallium(I) sulfate), 6.1, II

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture
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 Domestic Substances List (DSL).
SARA Section 313 (specific toxic chemical listings)
7446-18-6 Thallium(I) sulfate
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.
This product is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.
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.
REACH - Pre-registered substances
Substance is listed.
Chemical safety assessment:
A Chemical Safety Assessment has not been carried out.

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.