

| Titanium(III) Sulfate Solution | | Pricing > |
|--|--|------------------------------|
| Linear Formula | Ti ₂ (SO ₄) ₃ | |
| Pubchem CID | 165866 | |
| MDL Number | MFCD00036317 | |
| EC No. | 233-749-9 | |
| IUPAC Name | titanium(3+); trisulfate | |
| Beilstein/Reaxys No. | N/A | |
| SMILES | [Ti+3].[Ti+3].[O-]S(=O)(=O)[O-].[O-]S([O-])(=O)=O.[O-]S([O-])(=O)=O | |
| Inchl Identifier | InChI=1S/3H2O4S.2Ti/c3*1-5(2,3)4;;/h3*(H2,1,2,3,4);;/q;;;2*+3/p-6 | |
| Inchl Key | SOBXOQKKUVQETK-UHFFFAOYSA-H | |
| Signal Word | Danger | |
| Hazard Statements | H315-H319-H350 | |
| Hazard Codes | Xn | |
| Precautionary Statements | P201-P202-P264-P280-P281-P302+P352-P305+P351+P338-P308+P313-P332+P313-P337+P313-P362-P501 | |
| Risk Codes | 35 | |
| Safety Statements | 26-30-45 | |
| RTECS Number | N/A | |
| Transport Information | UN 1830 8/PG II | |
| WGK Germany | 3 | |
| GHS Pictograms | GHS07 Exclamation Point  GHS08 Health Hazard  | |

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SAFETY DATA SHEET

Date Accessed: 05/05/2024

Date Revised: 01/15/2022

SECTION 1. IDENTIFICATION

Product Identifiers: All applicable American Elements product codes for CAS #19495-80-8

Relevant identified uses of the substance:
Scientific research and development

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Corrosive to metals (Category 1), H290
Skin corrosion (Category 1A), H314
Serious eye damage (Category 1), H318

2.2 GHS Label elements, including precautionary statements

Pictogram

Signal word Danger

Hazard statement(s)

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

Precautionary statement(s)

P234 Keep only in original container.

P264 Wash skin thoroughly after handling.

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

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing.

Rinse skin with water/shower.

P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.

P305 + P351 + P338 + P310 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/doctor.

P363 Wash contaminated clothing before reuse.

P390 Absorb spillage to prevent material damage.

P405 Store locked up.

P406 Store in corrosive resistant stainless steel container with a resistant inner liner.

P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Mixtures

Name: Sulfuric acid, titanium(3+) salt (3:2)

CAS-No. 10343-61-0

EC-No. 233-749-9

Formula : O12S3Ti2

Molecular weight : 383.92 g/mol

Hazardous components

Component

Sulfuric acid

CAS-No. 7664-93-9

EC-No. 231-639-5

Index-No. 016-020-00-8

Registration number 01-2119458838-20-XXXX
Classification
Met. Corr. 1; Skin Corr. 1A;
Eye Dam. 1; H290, H314
Concentration
>= 50 - < 70 %

SECTION 4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

No data available

5.3 Advice for firefighters

Wear self-contained breathing apparatus for

firefighting if necessary.

5.4 Further information

No data available

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid inhalation of vapour or mist.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully

resealed and kept upright to prevent leakage.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1 no other specific uses are stipulated

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Component : Sulfuric acid

CAS-No. 7664-93-9

Value / Control parameters / Basis

TWA / 0.2 mg/m³ / USA. ACGIH Threshold Limit

Values (TLV)

TWA / 1 mg/m³ / USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000

TWA / 1 mg/m³ / USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and

approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after

use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls.

If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Do not let product enter drains.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a) Appearance Form: liquid

b) Odour No data available

c) Odour Threshold No data available

d) pH No data available

- e) Melting point/freezing point
No data available
 - f) Initial boiling point and boiling range
No data available
 - g) Flash point No data available
 - h) Evaporation rate No data available
 - i) Flammability (solid, gas) No data available
 - j) Upper/lower flammability or explosive limits
No data available
 - k) Vapour pressure No data available
 - l) Vapour density No data available
 - m) Relative density 1.456 g/cm³
 - n) Water solubility No data available
 - o) Partition coefficient: noctanol/water
No data available
 - p) Auto-ignition temperature No data available
 - q) Decomposition temperature
No data available
 - r) Viscosity No data available
 - s) Explosive properties No data available
 - t) Oxidizing properties No data available
- 9.2 Other safety information
No data available
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SECTION 10. STABILITY AND REACTIVITY

- 10.1 Reactivity
No data available
 - 10.2 Chemical stability
Stable under recommended storage conditions.
 - 10.3 Possibility of hazardous reactions
No data available
 - 10.4 Conditions to avoid
No data available
 - 10.5 Incompatible materials
No data available
 - 10.6 Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Sulphur oxides, Titanium/titanium oxides
Other decomposition products - No data available
In the event of fire: see section 5
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SECTION 11. TOXICOLOGICAL INFORMATION

- 11.1 Information on toxicological effects
Acute toxicity
Dermal: No data available
No data available
Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
No data available
Respiratory or skin sensitisation
No data available
Germ cell mutagenicity
No data available
Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
Reproductive toxicity
No data available
No data available
Specific target organ toxicity - single exposure
No data available
Specific target organ toxicity - repeated exposure
No data available
Aspiration hazard
No data available
Additional Information
RTECS: Not available
Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.,
spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary
edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea
Stomach - Irregularities - Based on Human Evidence
Stomach - Irregularities - Based on Human Evidence (Sulfuric acid)
Stomach - Irregularities - Based on Human Evidence (Titanium(III) sulfate)

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity
No data available
12.2 Persistence and degradability
No data available
12.3 Bioaccumulative potential
No data available
12.4 Mobility in soil
No data available
12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted
12.6 Other adverse effects
No data available

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product.

SECTION 14. TRANSPORT INFORMATION

DOT (US)

UN number: 1830

Class: 8

Packing group: II

Proper shipping name: Sulfuric acid

Reportable Quantity (RQ): 1818 lbs

Poison Inhalation Hazard: No

IMDG

UN number: 1830

Class: 8

Packing group: II

EMS-No: F-A, S-B

Proper shipping name: SULFURIC ACID

IATA

UN number: 1830

Class: 8

Packing group: II

Proper shipping name: Sulfuric acid

SECTION 15. REGULATORY INFORMATION

SARA 302 Components

The following components are subject to reporting levels established by SARA Title III, Section 302:

Sulfuric acid

CAS-No. 7664-93-9

Revision Date 2007-07-01
SARA 313 Components
The following components are subject to reporting
levels established by SARA Title III, Section 313:
Sulfuric acid
CAS-No. 7664-93-9
Revision Date 2007-07-01
SARA 311/312 Hazards
Acute Health Hazard, Chronic Health Hazard
Massachusetts Right To Know Components
Sulfuric acid
CAS-No. 7664-93-9
Revision Date 2007-07-01
Pennsylvania Right To Know Components
Sulfuric acid
CAS-No. 7664-93-9
Titanium(III) sulfate
CAS-No. 19495-80-8
Revision Date 2007-07-01
New Jersey Right To Know Components
Sulfuric acid
CAS-No. 7664-93-9
Titanium(III) sulfate
CAS-No. 19495-80-8
Revision Date 2007-07-01
California Prop. 65 Components
WARNING! This product contains a chemical known
to the
State of California to cause cancer.
Sulfuric acid
CAS-No. 7664-93-9
Revision Date 2007-09-28

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.

