Titanium(IV) Oxysulfate - Sulfuric Acid Hydrate	Pricing >

Linear Formula	$TiOSO_4 \cdot xH_2SO_4 \cdot yH_2O$
Pubchem CID	22836386
MDL Number	MFCD00150565
EC No.	N/A
IUPAC Name	oxotitanium; sulfuric acid; hydrate
Beilstein/Reaxys No.	N/A
SMILES	O.OS(=O)(=O)O.OS(=O)(=O)O.O=[Ti]
Inchl Identifier	InChI=1S/2H2O4S.H2O.O.Ti/c2*1-5(2,3)4;;;/h2*(H2,1,2,3,4);1H2;;
Inchl Key	VWXRXGSRWDMQNA-UHFFFAOYSA-N

Signal Word	Danger
Hazard Statements	H290-H314
Hazard Codes	C
Precautionary Statements	P260-P280-P303 + P361 + P353-P304 + P340 + P310-P305 + P351 + P338
Risk Codes	35
Safety Statements	26-36/37/39-45
RTECS Number	N/A
Transport Information	UN 3260 8 / PGII
WGK Germany	2
GHS Pictograms	**GHS05 Corrosive** 

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SAFETY DATA SHEET

Date Accessed: 09/26/2024
Date Revised: 01/15/2022

SECTION 1. IDENTIFICATION

Product Identifiers: All applicable American Elements product codes for CAS #123334-00-9

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

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.
P260 Do not breathe dust or mist.
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

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SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures
Molecular weight : 276 g/mol
Hazardous components
Component
Titanium oxide sulphate
CAS-No. 13825-74-6
EC-No. 237-523-0
Sulfuric acid
CAS-No. 7664-93-9
EC-No. 231-639-5
Index-No. 016-020-00-8
Registration number 01-2119458838-20-XXXX

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 dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.
Evacuate personnel to safe areas. Avoid breathing dust.
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
Pick up and arrange disposal without creating dust. Sweep up and shovel. 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
Further processing of solid materials may result in the formation of combustible dusts. The potential for

combustible
dust formation should be taken into consideration before additional processing occurs.Avoid formation of dust and aerosols.
Provide appropriate exhaust ventilation at places where dust is formed.
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.
Keep in a dry place.
Storage class (TRGS 510): Non-combustible, corrosive hazardous materials
7.3 Specific end use(s)
No other specific uses

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters
Exposure Guidelines
Other Information: Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992)
Chemical name
Sulfuric acid
7664-93-9
ACGIH TLV
TWA: 0.2 mg/m3 thoracic particulate matter
OSHA PEL
TWA: 1 mg/m3
NIOSH IDLH
IDLH: 15 mg/m3
TWA: 1 mg/m3
NIOSH IDLH Immediately Dangerous to Life or Health
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
Face shield and safety glasses 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 particle respirator type N100 (US) or type P3 (EN 143) 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: Powder with lumps
Colour: white
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 Not applicable
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 No data available
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

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

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
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
Stomach - Irregularities - Based on Human Evidence
Stomach - Irregularities - Based on Human Evidence (Sulfuric acid)

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: 3260 Class: 8 Packing group: II
Proper shipping name: Corrosive solid, acidic, inorganic, n.o.s. (Sulfuric acid, Titanium oxide sulphate)
Reportable Quantity (RQ): 667 lbs
Poison Inhalation Hazard: No
IMDG
UN number: 3260 Class: 8 Packing group: II EMS-No: F-A, S-B
Proper shipping name: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (Sulfuric acid, Titanium oxide sulphate)
IATA
UN number: 3260 Class: 8 Packing group: II
Proper shipping name: Corrosive solid, acidic, inorganic, n.o.s. (Sulfuric acid, Titanium oxide sulphate)

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
Titanium oxide sulphate
CAS-No.
13825-74-6
Revision Date

1994-07-31
Water 7732-18-5
Sulfuric acid 7664-93-9 2007-07-01
New Jersey Right To Know Components
Titanium oxide sulphate
CAS-No.
13825-74-6
Revision Date
1994-07-31
Water 7732-18-5
Sulfuric acid 7664-93-9 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

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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.
