



<a href="#">Cerium(IV) Sulfate Hydrate</a>		<a href="#">Pricing &gt;</a>
Linear Formula	$\text{Ce}(\text{SO}_4)_2 \cdot x\text{H}_2\text{O}$	
Pubchem CID	20223355	
MDL Number	MFCD00149427	
EC No.	237-029-5	
IUPAC Name	cerium(4+); disulfate; hydrate	
SMILES	O.[O-]S(=O)(=O)[O-].[O-]S(=O)(=O)[O-].[Ce+4]	
Inchl Identifier	InChI=1S/Ce.2H2O4S.H2O/c;2*1-5(2,3)4;/h;;2*(H2,1,2,3,4);1H2/q+4;;;/p-4	
Inchl Key	KNANFSXYDCURQS-UHFFFAOYSA-J	
Signal Word	Warning	
Hazard Statements	H290-H315-H319	
Hazard Codes	O, C	
Precautionary Statements	P305 + P351 + P338	
Flash Point	Not applicable	
Risk Codes	N/A	
Safety Statements	N/A	
RTECS Number	N/A	
Transport Information	UN 2796 8 / PGII	
WGK Germany	3	
GHS Pictograms	<p><a href="#">GHS03</a> <a href="#">Oxidizer</a></p>  <p><a href="#">GHS05</a> <a href="#">Corrosive</a></p> 	

[Create Printable PDF](#)

## SAFETY DATA SHEET

Date Accessed: 04/25/2024

Date Revised: 01/15/2022

---

## SECTION 1. IDENTIFICATION

**Product Identifiers:** All applicable American Elements product codes for CAS #95838-16-7

**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 in accordance with 29 CFR 1910 (OSHA HCS)  
GHS03 Flame over circle  
Ox. Sol. 3 H272 May intensify fire; oxidizer.  
GHS05 Corrosion  
Skin Corr. 1C H314 Causes severe skin burns and eye damage.  
Hazards not otherwise classified No data available  
GHS label elements, including precautionary statements



Hazard pictograms  
GHS03 GHS05  
Signal word Danger  
Hazard statements  
H272 May intensify fire; oxidizer.  
H314 Causes severe skin burns and eye damage.  
Precautionary statements  
P221 Take any precaution to avoid mixing with combustibles.  
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.  
P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/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.  
P405 Store locked up.  
P501 Dispose of contents/container in accordance  
with local/regional/national/international regulations.  
WHMIS classification  
C - Oxidizing materials  
D2B - Toxic material causing other toxic effects  
E - Corrosive material  
Classification system  
HMIS ratings (scale 0-4)  
(Hazardous Materials Identification System)  
HEALTH  
FIRE  
REACTIVITY  
2  
0  
2  
Health (acute effects) = 2  
Flammability = 0  
Physical Hazard = 2  
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:  
95838-16-7 Cerium(IV) sulfate hydrate  
Identification number(s):  
EC number: 237-029-5

---

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

Description of first aid measures  
General information Immediately remove any clothing  
soiled by the product.  
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:

Seek medical treatment.  
Information for doctor  
Most important symptoms and effects, both acute and delayed  
Causes severe skin burns.  
Causes serious eye damage.  
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.  
For safety reasons unsuitable extinguishing agents  
Halocarbon extinguisher  
Special hazards arising from the substance or mixture  
This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.  
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  
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.  
Methods and materials for containment and cleanup:  
Use neutralizing agent.  
Dispose of contaminated material as waste according to section 13.  
Ensure adequate ventilation.  
Prevention of secondary hazards:  
Acts as an oxidizing agent on organic materials such as wood, paper and fats  
Keep away from combustible material.

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:

Substance/product can reduce the ignition temperature of flammable substances.

This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.

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:

Store away from flammable substances.

Store away from reducing agents.

Do not store with organic materials.

Store away from metal powders.

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: Not required.

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.  
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.  
Eye protection:  
Tightly sealed goggles  
Full face protection  
Body protection: Protective work clothing.

---

## **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Information on basic physical and chemical properties

Appearance:

Form: Crystalline powder

Color: Yellow

Odor: Odorless

Odor threshold: No data available.

pH: N/A

Melting point/Melting range: 195 °C (383 °F) (dec)

Boiling point/Boiling range: No data available

Sublimation temperature / start: No data available

Flash point: N/A

Flammability (solid, gas) Contact with combustible material may cause fire.

Ignition temperature: No data available

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): 3.01 g/cm<sup>3</sup> (25.118 lbs/gal)

Relative density No data available.

Vapor density N/A

Evaporation rate N/A

Solubility in / Miscibility with

Water: Soluble

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 May intensify fire; oxidizer.  
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 reducing agents  
Reacts with flammable substances  
Conditions to avoid No data available  
Incompatible materials:  
Flammable substances  
Reducing agents  
Organic materials  
Metal powders  
Hazardous decomposition products:  
Sulfur oxides (SO<sub>x</sub>)  
Metal oxide fume

---

## **SECTION 11. TOXICOLOGICAL INFORMATION**

Information on toxicological effects  
Acute toxicity: Swallowing will lead to a strong corrosive effect on mouth and throat and to the danger of perforation of esophagus and stomach.  
LD/LC50 values that are relevant for classification: No data  
Skin irritation or corrosion: Causes severe skin burns.  
Eye irritation or corrosion: Causes serious eye damage.  
Sensitization: No sensitizing effects known.  
Germ cell mutagenicity: No effects known.  
Carcinogenicity: No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.  
Reproductive toxicity: No effects known.  
Specific target organ system toxicity - repeated exposure: No effects known.  
Specific target organ system toxicity - single exposure: No effects known.  
Aspiration hazard: No effects known.  
Other information (about experimental toxicology):  
Reproductive effects have been observed on tests with laboratory animals.

Subacute to chronic toxicity:  
Cerium salts increase the blood coagulation rate.  
Exposure to cerium salts may increase sensitivity to heat, itching and skin lesions. Large doses to experimental animals have caused writhing, ataxia, labored respiration, sedation, hypotension and death by cardiovascular collapse.  
Subacute to chronic toxicity: No effects known.  
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 material to be released to the environment without official permits.  
Do not allow undiluted product or large quantities to reach groundwater, water courses, or sewage systems.  
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.  
Recommended cleansing agent: Water, if necessary with cleansing agents.

---

## **SECTION 14. TRANSPORT INFORMATION**

UN-Number  
DOT, IMDG, IATA UN3085  
UN proper shipping name  
DOT Oxidizing solid, corrosive, n.o.s. (Cerium(IV))



sulfate hydrate)  
IMDG, IATA OXIDIZING SOLID, CORROSIVE,  
N.O.S. (Cerium(IV) sulfate hydrate)  
Transport hazard class(es)  
DOT  
Class 5.1 Oxidising substances.  
Label 5.1+8  
Class 5.1 (OC2) Oxidizing substances  
Label 5.1+8  
IMDG, IATA  
Class 5.1 Oxidising substances.  
Label 5.1+8  
Packing group  
DOT, IMDG, IATA III  
Environmental hazards: N/A  
Special precautions for user Warning: Oxidizing  
substances  
Transport in bulk according to Annex II of  
MARPOL73/78 and the IBC Code N/A  
Transport/Additional information:  
DOT  
Marine Pollutant (DOT): No  
UN "Model Regulation": UN3085, Oxidizing solid,  
corrosive, n.o.s. (Cerium(IV) sulfate hydrate), 5.1 (8),  
III

---

## **SECTION 15. REGULATORY INFORMATION**

Safety, health and environmental  
regulations/legislation specific for the substance or  
mixture  
GHS label elements, including precautionary  
statements  
Hazard pictograms  
GHS03 GHS05  
Signal word Danger  
Hazard statements  
H272 May intensify fire; oxidizer.  
H314 Causes severe skin burns and eye damage.  
Precautionary statements  
P221 Take any precaution to avoid mixing with  
combustibles.  
P210 Keep away from heat/sparks/open flames/hot  
surfaces. No smoking.  
P303+P361+P353 If on skin (or hair): Take off  
immediately all contaminated clothing. Rinse skin with  
water/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.  
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 Domestic Substances List (DSL).

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.

---

## 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.

---