



Cerium(IV) Sulfate Hydrate		Pricing >
Linear Formula	Ce(SO ₄) ₂ • xH ₂ 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><u>GHS03</u> <u>Oxidizer</u></p>  <p><u>GHS05</u> <u>Corrosive</u></p> 	

[Create Printable PDF](#)

SAFETY DATA SHEET

Date Accessed: 08/07/2022

Date Revised: 05/15/2015

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_x)
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/cm³ (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_x)
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.

