

SAFETY DATA SHEET

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SECTION 1. IDENTIFICATION

Product Identifier: (4N) 99.99% Erbium(III) Sulfate Octahydrate

Product Code: ER-SAT-04-C.8HYD

CAS Number: 10031-52-4

Relevant identified uses of the substance: Scientific research and development

Supplier details:

American Elements
10884 Weyburn Ave.
Los Angeles, CA 90024
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SECTION 2. HAZARDS IDENTIFICATION

Physical hazards Not classified.

Health hazards Not classified.

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Hazard symbol None.

Signal word None.

Hazard statement The substance does not meet the criteria for classification.

Precautionary statement

Prevention Observe good industrial hygiene practices.

Response Wash hands after handling.

Storage Store away from incompatible materials.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise

classified (HNOC)

None known.

Supplemental information None.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances

Chemical name Common name and synonyms CAS number %

ERBIUM SULFATE Erbium sulfate, octahydrate 10031-52-4 100

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

SECTION 4. FIRST AID MEASURES

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact Rinse with water. Get medical attention if irritation develops and persists.

Ingestion Rinse mouth. Get medical attention if symptoms occur.

Most important

symptoms/effects, acute and delayed

Direct contact with eyes may cause temporary irritation.

Indication of immediate

medical attention and special treatment needed

Treat symptomatically.

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media Use extinguishing agent suitable for type of surrounding fire. Water fog.

Foam. Dry chemical

powder. Carbon dioxide (CO₂).

Unsuitable extinguishing media

None known.

Specific hazards arising from the chemical

During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting

equipment/instructions

Use water spray to cool unopened containers.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards No unusual fire or explosion hazards noted.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions,
protective equipment and
emergency procedures

Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.

Methods and materials for
containment and cleaning up

This product is miscible in water. Stop the flow of material, if this is without risk. Following product recovery, flush area with water. For waste disposal, see section 13 of the SDS.

Environmental precautions Avoid discharge into drains, water courses or onto the ground.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling Observe good industrial hygiene practices.

Conditions for safe storage,
including any
incompatibilities

Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits No exposure limits noted for ingredient(s).

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering
controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

Other Wear suitable protective clothing.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene
considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical state Solid.

Form Crystalline. Solid.

Color Pink.

Odor Odorless.
Odor threshold Not available.
pH Not available.
Melting point/freezing point Not available.
Initial boiling point and
boiling range
Not available.
Flash point Not available.
Evaporation rate Not available.
Flammability (solid, gas) Not available.
Upper/lower flammability or explosive limits
Flammability limit - lower
(%)
Not available.
Flammability limit -
upper (%)
Not available.
Explosive limit - lower
(%)
Not available.
Explosive limit - upper
(%)
Not available.
Vapor pressure Not available.
Vapor density Not available.
Relative density Not available.
Solubility(ies)
Solubility (water) 21 g/kg (per kg water)
Partition coefficient
(n-octanol/water)
Not available.
Auto-ignition temperature Not available.
Decomposition temperature Not available.
Viscosity Not available.
Other information
Density 3.22 g/cm³
Molecular formula Er₂(SO₄)₃·8H₂O
Molecular weight 766.85
Specific gravity 3.22

SECTION 10. STABILITY AND REACTIVITY

Reactivity The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability Material is stable under normal conditions.

Possibility of hazardous
reactions

No dangerous reaction known under conditions of normal use.

Conditions to avoid The substance is hygroscopic and will absorb water by contact with the moisture in the air.

Incompatible materials None known.

Hazardous decomposition
products

No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation No adverse effects due to inhalation are expected.

Skin contact No adverse effects due to skin contact are expected.

Eye contact Direct contact with eyes may cause temporary irritation.

Ingestion Expected to be a low ingestion hazard.

Symptoms related to the
physical, chemical and
toxicological characteristics

Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity Not available.

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye
irritation

Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization Not available.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are
mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity

- single exposure

Not classified.

Specific target organ toxicity

- repeated exposure

Not classified.

Aspiration hazard Not available.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the

possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical
ozone creation

potential, endocrine disruption, global warming potential) are expected from this component.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal

site.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues /
unused products

Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal.

Since emptied containers may retain product residue, follow label warnings even after container is emptied.

SECTION 14. TRANSPORT INFORMATION

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to N/A

Annex II of MARPOL 73/78

and the IBC Code

SECTION 15. REGULATORY INFORMATION

US federal regulations All components are on the U.S. EPA TSCA Inventory List.

This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - No

Delayed Hazard - No

Fire Hazard - No

Pressure Hazard - No

Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312

Hazardous chemical

No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act

(SDWA)

Not regulated.

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. Massachusetts RTK - Substance List

Not regulated.

US. New Jersey Worker and Community Right-to-Know Act

Not listed.

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any

chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region Inventory name On inventory (yes/no)*

Australia Australian Inventory of Chemical Substances (AICS) No

Canada Domestic Substances List (DSL) No

Canada Non-Domestic Substances List (NDSL) Yes

China Inventory of Existing Chemical Substances in China (IECSC) No

Europe European Inventory of Existing Commercial Chemical Substances Yes
(EINECS)

Europe European List of Notified Chemical Substances (ELINCS) No

Japan Inventory of Existing and New Chemical Substances (ENCS) Yes

Korea Existing Chemicals List (ECL) Yes

New Zealand New Zealand Inventory No

Philippines Philippine Inventory of Chemicals and Chemical Substances No
(PICCS)

United States & Puerto Rico Toxic Substances Control Act (TSCA) Inventory Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

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

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