Materials Safety Data Sheet

Erbium(III) oxide Solid (Granules,Target)

1. Product and Company Identification

Product Name: Erbium(III) oxide
Formula: Er_2O_3
CAS: 12061-16-4
EC No.: 235-045-7
Synonyms: Dierbium Trioxide; Erbia; Erbium(III) oxide

Recommended Use: Laboratory chemicals, Scientific research
Uses advised against: No specific uses advised against have been identified.

Supplier: UltraPurMat Group Co., Ltd
Address: Room 307, Building 2, Tengfei Innovation Center, No38 Gaoxin 6th Road, High-tech Zone, Xi'an Shaanxi China
Tel: +86-29-88993870
Email: sales@ulpmat.com
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2. Hazards Identification

Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008 (CLP)
The substance is not classified as hazardous

GHS Label elements, including precautionary statements
Pictogram: None
Signal Word: None
Hazard statement(s): None
Precautionary Statement(s): None

Other hazards: Avoid generating dust during handling and processing, as dust may cause irritation to the eyes, skin, and respiratory tract.

3. Composition

Components	CAS	Classification (H)	Concentration
Erbium oxide (Er_2O_3)	12061-16-4	Not classified	≤100%

4. First Aid Procedures

Description of first aid measures

General Treatment: If symptoms persist, call a physician.

Inhalation: Remove victim to fresh air. If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions.

Ingestion: Never give anything by mouth to an unconscious person. Rinse mouth with water. Seek medical attention if symptoms occur.

Skin: Take off immediately all contaminated clothing. Rinse skin with water/shower. Seek medical attention.

Eyes: Rinse with pure water for at least 15 minutes. Remove contact lenses, if present and easy to do. Seek medical attention.

Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.

Indication of any immediate medical attention and special treatment needed

Based on the symptoms that appear, provide targeted treatment. Be aware that symptoms may be delayed.

5. Firefighting Measures

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

Unsuitable extinguishing media: N/A

Special hazards arising from the substance or mixture

The product is not expected to be flammable under normal conditions of use. Fires involving surrounding materials may generate irritating fumes or airborne particles.

Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Fight fire from a safe distance and with adequate protection. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately.

Further information

No data available.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: Remove persons to safety. Use personal protective equipment as required. Avoid dust formation. Remove all sources of ignition.
For emergency responders: Wear breathing apparatus if exposed to vapours/dust/spray/gases.

Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

Methods and materials for containment and cleaning up

Prevent the material from entering drains and waterways. Collect the spilled material mechanically, taking care to minimize dust generation, and place it in a suitable container for recovery or disposal.

Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

7. Handling and Storage

Precautions for safe handling

Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid ingestion and inhalation. Avoid dust formation. Do not get in eyes, on skin, or on clothing. Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feedingstuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place.
Storage class (TRGS510): Class 13.
Packaging compatibilities: See Section 10.

Specific end use(s)

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

8. Exposure Controls/Personal Protection

Exposure controls

Appropriate engineering controls

Ensure adequate ventilation, especially in confined areas. Ensure that eye wash stations and safety showers are close to the workstation location.

Personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles) (European standard - EN166) and face protection.

Skin protection

Hand Protection: Protective gloves (The selected protective gloves shall comply with Regulation (EU) 2016/425 and the applicable requirements of EN ISO 374).

Body Protection

Wear appropriate protective clothing to prevent skin exposure.

Respiratory protection

No protective equipment is needed under normal use conditions.

Control of environmental exposure

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and groundwater.

9. Physical and Chemical Characteristics

Information on basic physical and chemical properties

Appearance

Form: Solid (Granules,Target)

Colour: Pink

Odor: Odorless

pH: Not applicable

Melting point/range: 2400 °C

Boiling point/range: No data available

Flash point: No data available

Evaporation rate: Not applicable - Solid

Flammability (solid, gas): No data available

Upper/lower flammability or explosive limits: No data available

Vapor pressure: No data available

Relative density: 8.64 g/cm^3

Water solubility: Insoluble

Partition coefficient: No data available

Auto-ignition temperature: No data available

Decomposition temperature: No data available

Viscosity: Not applicable

Other information

Molecular formula: Er_2O_3

Molecular weight: 382.52 g/mol

10. Stability and reactivity

Reactivity

No data available.

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

No data available.

Conditions to avoid

Incompatible products. Exposure to moist air or water.

Incompatible materials

Strong oxidizing agents. Carbon dioxide (CO_2).

Hazardous decomposition products

Erbium oxides may be generated under fire conditions. Other decomposition products: No data available. For firefighting measures, refer to Section 5.

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Oral: LD50 - Rat - male and female - > 5,000 mg/kg.

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

There are no known carcinogenic chemicals in this product. 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.

Reproductive toxicity

No data available.

Specific target organ toxicity -single exposure

Not classified.

Specific target organ toxicity -repeated exposure

Not classified.

Aspiration hazard

Not applicable. Solid.

Additional Information

This product does not contain any known or suspected endocrine disruptors.

12. Ecological Information

Toxicity

No data available.

Persistence and degradability

No data available.

Bioaccumulative potential

No data available.

Mobility in soil

No data available.

Results of PBT and vPvB assessment

In accordance with Annex XIII of the REACH Regulation, inorganic substances do not require assessment.

Other adverse effects

Persistent Organic Pollutant: This product does not contain any known or suspected substance.

13. Disposal Considerations

Waste treatment methods

Dispose of the material through an authorized waste management facility in accordance with applicable local, regional, national and international regulations. Where feasible, consider recovery or recycling by a facility equipped to handle the material. The appropriate disposal method should be determined based on the waste classification and applicable regulatory requirements.

14. Transportation Information

ADR

Not classified as hazardous for transport.

IMDG

Not classified as hazardous for transport.

IATA

Not classified as hazardous for transport.

15. Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

Regulation (EC) 1907/2006, REACH, Annex XIV list of substances subject to authorisation: Not applicable

Regulation (EC) 1907/2006, REACH, Annex XVII restrictions on the manufacture, placing on the market and use of certain dangerous substances: Not applicable

Regulation (EC) 1005/2009 on substances that deplete the ozone layer: Not applicable

Regulation (EU) 2019/1021 on persistent organic pollutants: Not applicable

Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

16. Other information

Revision Date:

2026-09-22

Version:

1.0

Disclaimer

The information of this safety data sheet is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended.

This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.
This Safety Data Sheet is prepared in accordance with Regulation (EC) No 1907/2006 (REACH), Annex II.