



LTS Research Laboratories, Inc.
Safety Data Sheet
Erbium

1. Product and Company Identification

Trade Name: Erbium
Chemical Formula: Er
Recommended Use: Scientific research and development

Manufacturer/Supplier: LTS Research Laboratories, Inc.
Street: 37 Ramland Road
City: Orangeburg
State: New York
Zip Code: 10962
Country: USA
Tel #: 855-587-2436 / 855-lts-chem

24-Hour Emergency Contact: 800-424-9300 (US & Canada)
+1-703-527-3887 (International)

2. Hazards Identification

Signal Word: Danger



Hazard Statements: H228: Flammable solid
H260: In contact with water releases flammable gases which may ignite spontaneously

Precautionary Statements: P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking
P231+P232: Handle under inert gas. Protect from moisture
P280: Wear protective gloves/protective clothing/eye protection/face protection
P370+P378: In case of fire: Use special powder for metal fires for extinction
P402+404: Store in a dry place. Store in a closed container
P501: Dispose of contents/container in accordance with local/regional/national/international regulations

| HMIS Health Ratings (0-4): | Powder | Pieces | Bulk |
|----------------------------|--------|--------|------|
| Health: | 1 | 1 | 0 |
| Flammability: | 3 | 2 | 1 |
| Physical: | 2 | 2 | 1 |

3. Composition

Chemical Family: Rare earth metal
Additional Names: None

Erbium (Er):
Percentage: 100 wt.%
CAS #: 7440-52-0
EC #: 231-160-1

4. First Aid Procedures

| | |
|---------------------|--|
| General Treatment: | Seek medical attention if symptoms persist. |
| Special Treatment: | None |
| Important Symptoms: | None |
| Inhalation: | Remove victim to fresh air. Supply oxygen if breathing is difficult. |
| Ingestion: | Seek medical attention |
| Skin: | Wash affected area with mild soap and water. Remove any contaminated clothing. |
| Eyes: | Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing |

5. Firefighting Measures

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|--------------------------------|---|
| Flammability: | Flammable as powder and pieces |
| Extinguishing Media: | Do not use water for metal fires – special extinguishing powder. |
| Spec. Fire Fighting Procedure: | Use full-face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. See section 10 for decomposition products. |

6. Accidental Release Measures

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|----------------------------------|--|
| If Material Is Released/Spilled: | Wear appropriate respiratory and protective equipment specified in special protection information. Isolate spill area and provide ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for disposal. Take care not to raise dust. |
| Environmental Precautions: | Isolate runoff to prevent environmental pollution. |

7. Handling and Storage

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|----------------------------|---|
| Handling Conditions: | Handle under dry protective gas. Wash thoroughly after handling. |
| Storage Conditions: | Store in a cool dry place in a tightly sealed container. Store under dry inert gas. Store apart from materials and conditions listed in section 10. |
| Work/Hygienic Maintenance: | Do not use tobacco or food in work area. Wash thoroughly before eating and smoking. Do not blow dust off clothing or skin with compressed air. |
| Ventilation: | Provide sufficient ventilation to maintain concentration at or below threshold limit. |

8. Exposure Controls and Personal Protection

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|-------------------------------------|---|
| Permissible Exposure Limits: | N/A |
| Threshold Limit Value: | N/A |
| Special Equipment: | None |
| Respiratory Protection: | Use a respirator with type P100 (USA) or P3 (EN143) cartridges as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards. |
| Protective Gloves: | Nitrile rubber, NBR 0.11mm thick. |
| Penetration time of glove material: | 480 minutes |
| Eye Protection: | Safety glasses or goggles, Full face protection |
| Body Protection: | Protective work clothing. Wear close-toed shoes and long sleeves/pants. |

9. Physical and Chemical Characteristics

| | |
|---------------------------|---|
| Color | Silver grey |
| Form: | Powder, Granules, Pellets, Sputtering target, Custom parts |
| Odor: | N/A |
| Water Solubility: | As powder/pieces: contact with water releases flammable gases, As bulk: hydrolyzes |
| Boiling Point: | 2868 °C |
| Melting Point: | 1529 °C |
| Flash Point: | N/A |
| Autoignition Temperature: | N/A |
| Density: | 9.066 g/cc |
| Molecular weight: | 167.26 g/mol |

10. Reactivity

| | |
|------------------------------------|--|
| Stability: | Stable under recommended storage conditions |
| Reacts with: | Acids, acid chlorides, halogens, Water, Oxidizing agents |
| Incompatible Conditions/Materials: | Water/moisture, Air, Halogens, Acids, Acid Chlorides, Oxidizing agents |
| Hazardous Decomposition Products: | Erbium oxide fume |

11. Toxicological Information

| | |
|--------------------------------|----------------------|
| Potential Health Effects: | |
| Eyes: | May cause irritation |
| Skin: | May cause irritation |
| Ingestion: | May cause irritation |
| Inhalation: | May cause irritation |
| Chronic: | N/A |
| Signs & Symptoms: | N/A |
| Aggravated Medical Conditions: | N/A |
| Median Lethal Dose: | N/A |
| Carcinogen: | N/A |

12. Ecological Information

| | |
|--|-----|
| Aquatic Toxicity: | Low |
| Persistent Bioaccumulation Toxicity: | No |
| Very Persistent, Very Bioaccumulative: | No |
| Notes: | N/A |

13. Disposal Considerations

Dispose of in accordance with local, state, national, and international regulations.

14. Transportation Data

Hazardous:

Hazardous as powder:



Hazard Class:

4.1 Flammable solids, self-reactive substances and solid desensitized explosives.

Packing Group:

II

UN Number:

UN3089

Proper Shipping Name:

Metal powders, flammable, n.o.s. (Erbium powder)

Hazardous:

Hazardous as pieces:



Hazard Class:

4.1 Flammable solids, self-reactive substances and solid desensitized explosives.

Packing Group:

II

UN Number:

UN3178

Proper Shipping Name:

Flammable solid, inorganic, n.o.s. (Erbium pieces)

15. Regulatory Information

Sec 302 Extremely Hazardous:

No

Sec 304 Reportable Quantities:

N/A

Sec 313 Toxic Chemicals:

No

16. Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given 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.

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