



LTS Research Laboratories, Inc.  
Safety Data Sheet  
Erbium

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1. Product and Company Identification

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

Manufacturer/Supplier: LTS Research Laboratories, Inc.  
Street: 2001 Oaks Pkwy  
City: Belmont  
State: North Carolina  
Zip Code: 28012  
Country: USA  
Tel #: 855-587-2436 / 855-lts-chem

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

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2. Hazards Identification

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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  
P223: Keep away from any possible contact with water, because of violent reaction and possible flash fire  
P231+P232: Handle under inert gas. Protect from moisture  
P240: Ground/bond container and receiving equipment  
P241: Use explosion-proof electrical/ ventilating/ lighting/ equipment  
P280: Wear protective gloves/protective clothing/eye protection/face protection  
P302 + P335 + P334: IF ON SKIN: Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages  
P370+P378: In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish  
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

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### 3. Composition

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Chemical Family: Rare earth metal  
Additional Names: None

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

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### 4. First Aid Procedures

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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

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### 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.

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### 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.

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### 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.

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## 8. Exposure Controls and Personal Protection

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Permissible Exposure Limits:	None
Threshold Limit Value:	None
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.

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## 9. Physical and Chemical Characteristics

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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:	9.062 g/cc
Molecular weight:	167.26 g/mol

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## 10. Reactivity

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Stability:	Stable under recommended storage conditions
Reacts with:	Acids, acid chlorides, halogens, Water, Oxidizing agents
Incompatible Conditions/Materials:	Water/moisture, Air, Heat, Flames, Sparks
Hazardous Decomposition Products:	Erbium oxide, Hydrogen

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## 11. Toxicological Information

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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

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## 12. Ecological Information

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Aquatic Toxicity: N/A  
Persistent Bioaccumulation Toxicity: N/A  
Very Persistent, Very Bioaccumulative: N/A  
Notes: N/A

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## 13. Disposal Considerations

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

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## 14. Transportation Data

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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)

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## 15. Regulatory Information

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Sec 302 Extremely Hazardous: No  
Sec 304 Reportable Quantities: N/A  
Sec 313 Toxic Chemicals: No

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## 16. Other Information

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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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