



LTS Research Laboratories, Inc.  
Safety Data Sheet  
Cerium Yttrium Iron Alloy

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1. Product and Company Identification

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Trade Name: Cerium yttrium iron alloy  
Chemical Formula: Ce/Y/Fe  
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 #: 845-587-2436 / 845-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  
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 CO<sub>2</sub>, sand, extinguishing powder for extinction  
P402+P404: 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):  
Health: 1  
Flammability: 3 (powder, pieces)  
Physical: 2

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### 3. Composition

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Chemical Family:	Alloy
Additional Names:	None
Cerium (Ce):	
Percentage:	0-100 wt%
CAS #:	7440-45-1
EC #:	231-154-9
Yttrium (Y):	
Percentage:	0-100 wt%
CAS #:	7440-65-5
EC #:	231-174-8
Iron (Fe):	
Percentage:	0-100 wt%
CAS #:	7439-89-6
EC #:	231-096-4

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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:	Give one to two glasses of water and induce vomiting. Never induce vomiting or give anything by mouth to an unconscious person.
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
Extinguishing Media:	Do not use water for metal fires – use CO <sub>2</sub> , sand, 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 apart from 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:	1 mg/m <sup>3</sup> as Y, long-term value
Threshold Limit Value:	1 mg/m <sup>3</sup> as Y, long-term value
Special Equipment:	None
Respiratory Protection:	Dust Respirator
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	Grey
Form:	Powder, Granules, Pellets, Sputtering target, Custom parts
Odor:	Odorless
Water Solubility:	Insoluble
Boiling Point:	N/A
Melting Point:	N/A
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	N/A
Molecular weight:	N/A

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## 10. Reactivity

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Stability:	Stable under recommended storage conditions
Reacts With:	Acids, Water, Halogens, Acid chlorides, Oxidizing agents
Incompatible Conditions:	Water/moisture, Air
Hazardous Decomposition Products:	Iron oxides, Cerium oxide, Metal oxide fume

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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: 30000 mg/kg for rat by mouth as Fe

Carcinogen: N/A

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## 12. Ecological Information

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Aquatic Toxicity: Low

Persistent Bioaccumulation Toxicity: No

Very Persistent, Very Bioaccumulative: No

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 for transportation as powder



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. (Cerium yttrium iron alloy)

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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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