



LTS Research Laboratories, Inc.  
Safety Data Sheet  
Yttria doped Ceria

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1. Product and Company Identification

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Trade Name: Yttria doped Ceria  
Chemical Formula:  $CeO_2 \cdot Y_2O_3$   
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 #: +1 (704) 899 2840

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: Warning



Hazard Statements: H302: Harmful if swallowed.

Precautionary Statements: P264: Wash face, hand and skin thoroughly after handling.  
P270: Do not eat, drink or smoke when using this product.  
P301 + P312: IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.  
P330: Rinse mouth.  
P501: Dispose of contents/ container to an approved waste disposal plant.

HMIS Health Ratings (0-4):  
Health: 0  
Flammability: 0  
Physical: 0

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### 3. Composition

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Chemical Family: Rare earth compounds  
Additional Names: Yttrium doped ceria, Cerium yttrium oxide, YDC, YDC-10, YDC-20, YDC20, 20YDC.

Yttria oxide (Y<sub>2</sub>O<sub>3</sub>):  
Percentage: 0-100 wt%  
CAS #: 1314-36-9  
EC #: 215-233-5

Cerium dioxide (CeO<sub>2</sub>):  
Percentage: 0-100 wt%  
CAS #: 1306-38-3  
EC #: 215-150-4

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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. Seek medical attention.

Ingestion: Give one to two glasses of water. Seek medical attention.

Skin: Wash affected area with mild soap and water. Remove any contaminated clothing. Seek medical attention.

Eyes: Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical attention.

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### 5. Firefighting Measures

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Flammability: Non-flammable

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

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:	Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Wash thoroughly after handling.
Storage Conditions:	Store in a cool dry and well-ventilated place in a tightly sealed container. 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:	N/A
Threshold Limit Value:	N/A
Special Equipment:	None
Respiratory Protection:	Dust Respirator, filter type P95 or P1
Protective Gloves:	Nitrile rubber gloves, 0.11 mm thick
Eye Protection:	Safety glasses or goggles
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	White-light yellow
Form:	Powder, Granules, Pellets, Sputtering target, Custom parts
Odor:	N/A
Water Solubility:	N/A
Boiling Point:	N/A
Melting Point:	> 400 °C
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	7.13 g/cc
Molecular weight:	172.12 g/mol

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## 10. Reactivity

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Stability:	Stable under recommended storage conditions.
Reacts With:	Alkali metals, Ammonia, Oxidizing agents, Peroxides, Alkali metals, Ammonia, Oxidizing agents, Peroxides
Incompatible Conditions:	None
Hazardous Decomposition Products:	None

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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:

Rare earth compounds may cause delayed blood clotting leading to hemorrhages.  
Inhalation of rare earths may cause sensitivity to heat, itching, and increased awareness of odor and taste.

### Aggravated Medical Conditions:

N/A

### Median Lethal Dose:

> 1,000 mg/kg for rat by mouth

### 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: Not hazardous for transportation.

Hazard Class:	N/A
Packing Group:	N/A
UN Number:	N/A
Proper Shipping Name:	N/A

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## 15. Regulatory Information

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Sec 302 Extremely Hazardous:	N/A
Sec 304 Reportable Quantities:	N/A
Sec 313 Toxic Chemicals:	N/A

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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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