


# MATERIAL SAFETY DATA SHEET

Section 1: PRODUCT AND COMPANY IDENTIFICATION	
<p>Product Name:</p> <p style="text-align: center;"><b>CERIUM OXIDE</b></p> <p>Product use/class:</p> <p>Abrasive polishing powder Rare earth oxide</p> <p>Date Prepared: 07/06/2006</p> <p>Prepared By: N Booth</p>	<p>Supplier/Manufacturer:</p> <div style="text-align: center;">  <p><b>CRYSTALITE CORPORATION</b></p> </div> <p>8400 Green Meadows Drive P.O. Box 545 Lewis Center, Ohio 43035-0545 USA</p> <p>Phone Number:</p> <p>(740) 548-4100 8:00 AM – 5:00 PM EST Emergency 24 Hour Contact: CHEMTREC North America: 800-424-9300 Outside of North America: +1-703-527-3887 (collect)</p>

Section 2: HAZARDS IDENTIFICATION	
Emergency Overview	Caution! Product dust may be irritating to eyes, skin and respiratory system. Avoid dust formation.
OSHA Regulatory Status	N/A
Potential Health Effects	
Inhalation	Dust irritating to respiratory tract.
Ingestion	May irritate digestive tract.
Skin	Prolonged skin contact may cause irritation and/or dermatitis.
Eye	May cause irritation.
Potential Environmental Effects	N/A
Primary Route(s) of Entry	Inhalation, Ingestion

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS					
Chemical Name	Common Name	CAS Registry No.	Max %	OSHA PEL	ACGIH TLV
Kaolin	Same	1332-58-7	30-40	15 mg/m <sup>3</sup> (total); 5 mg/m <sup>3</sup> (respirable)	2 mg/m <sup>3</sup> (respirable fraction)
Mixture of 4 compounds:	Rare Earth Oxide		50-60	15 mg/m <sup>3</sup> (total); 5 mg/m <sup>3</sup> (respirable)	10 mg/m <sup>3</sup> (total), 3 mg/m <sup>3</sup> (respirable)
Cerium Oxide	Same	1306-36-3			
Lanthanum Oxide	Same	1312-81-8			
Praseodymium Oxide	Same	12037-29-5			
Neodymium Oxide	Same	1313-97-9			
Mixture of 2 compounds:	Rare Earth Fluoride		10-20	2.5 mg/m <sup>3</sup> as F	2.5 mg/m <sup>3</sup> as F
Cerium Fluoride	Same	7758-88-5			
Lanthanum Fluoride	Same	13709-38-1			
Naturally Occurring Radioactive Material	NORM	N/A	Trace	N/A	N/A

<b>Section 4: FIRST AID MEASURES</b>	
Inhalation	Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Call a physician immediately.
Ingestion	Drink plenty of water. Do not induce vomiting without medical advice. Consult a physician.
Skin	Wash off immediately with soap and plenty of water. Remove and wash contaminated clothing before re-use. If symptoms persist, call a physician.
Eye	Rinse immediately with plenty of water, also under the eyelids. Get medical attention if irritation develops.
Notes to physician:	Treat symptomatically. Lanthanides, because of their high density, can produce abnormalities on chest x-ray. Lanthanides, generally, are not felt to be fibrogenic and the lesions typically have little or no clinical significance. However, occasional cases of pneumoconiosis have been reported.

<b>Section 5: FIRE FIGHTING MEASURES</b>			
Flash Point	Not combustible.	Flash Point Method	N/A
Autoignition Temperature	N/A	Lower Explosive Limit	N/A
Extinguishing Media	Use measures appropriate to local circumstances and the surrounding environment.	Upper Explosive Limit	N/A
Unusual Fire and Explosion Hazards	None.		
Special Firefighting Procedures	As in any fire, wear self-contained breathing apparatus pressure-demand, NIOSH (approved or equivalent) and full protective gear.		

<b>Section 6: ACCIDENTAL RELEASE MEASURES</b>	
Personal Precautions	Avoid dust formation. Evacuate area of all unnecessary personnel. Avoid contact with skin, eyes and clothing. Use personal protective equipment.
Environmental Precautions	Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Do not flush into surface water or sanitary sewer system.
Methods for Containment	N/A
Methods for Clean-up	Clean up promptly by scoop or vacuum. Wear personal protective equipment. Keep in suitable, closed containers for disposal.
Other Information	N/A

<b>Section 7: HANDLING AND STORAGE</b>	
Handling	Handle in accordance with good industrial hygiene and safety practice. Avoid dust formation. Avoid contact with skin, eyes and clothing. Wash hands thoroughly before eating, drinking or smoking.
Storage	Keep container tightly closed in a dry and well-ventilated place.

Section 8: <b>EXPOSURE CONTROLS/PERSONAL PROTECTION</b>	
Exposure Guidelines	N/A
Engineering Controls	Provide appropriate exhaust ventilation at machinery and at places where dust or fumes can be generated.
Eye/Face Protection	Safety glasses with side-shields.
Skin Protection	Lightweight protective clothing.
Respiratory Protection	Use NIOSH approved respirator when ventilation is inadequate.
Other Protective Equipment	N/A
Hygienic Practices	Wash contaminated clothing before re-use.

Section 9: <b>PHYSICAL AND CHEMICAL PROPERTIES</b>			
Appearance	Red brown	Odor	Odorless
Odor Threshold	N/A	Physical State	Powder
pH	N/A	Melting Point	>2300°C
Boiling Point	>2300°C	Flash Point	N/A
Evaporation Rate	N/A	Flammability	N/A
Flammability/Explosive Limit	N/A	Vapor Pressure	N/A
Vapor Density	N/A	Specific Gravity/Density	5.4
Solubility	Insoluble	Partition Coefficient	N/A
Auto-ignition Temperature	N/A	Decomposition Temperature	N/A

Section 10: <b>STABILITY AND REACTIVITY</b>	
Chemical Stability	Stable at normal conditions. Polymerization will not occur.
Conditions to Avoid	None known.
Incompatible Materials	Strong acids.
Hazardous Decomposition Products	None under normal use.
Possibility of Hazardous Reactions	N/A

Section 11: <b>TOXICOLOGICAL INFORMATION</b>
<p>Acute toxicity: No data is available on the product itself. Not listed by IARC, NTP or OSHA as a carcinogen.            Kaolin: ACGIH – Carcinogens: A4 – Not Classifiable as a Human Carcinogen.            Rare Earth Oxide: NIOSH – LD50s and LC50s: &gt;5 g/kg Oral LD50 Rat.</p>

Section 12: <b>ECOLOGICAL INFORMATION</b>
<p>No data is available on the product itself.            Aquatic toxicity: Not determined.            Persistence and degradability: Not determined.</p>

**Section 13: DISPOSAL CONSIDERATIONS**

Waste must be disposed of in accordance with federal, state and local environmental control regulations. Where possible recycling is preferred to disposal or incineration. This product contains Naturally Occurring Radioactive Materials (NORM). Consult and comply with current regulations.

**Section 14: TRANSPORT INFORMATION**

DOT: Proper shipping name: Not regulated.  
 TDG (Canada): Proper shipping name: Not regulated.

**Section 15: REGULATORY INFORMATION**

TSCA	12(b): Not subject; 8(b): Listed or exempt.
SARA Section 313	Title III: Not subject.
PA Right-to-Know	Kaolin: Listed; All others: N/A
NJ Right-to-Know	N/A
CA Proposition 65	Kaolin: N/A; All others: Radionuclides
Canada WHMIS	Hazard class D2B—Toxic Materials. Rare Earth Fluoride: 1%
Canada DSL	Listed or exempt
EINECS	Listed or exempt
Philippines (PICCS)	Not listed
Japan (ENCS)	Not listed
Korea (KECL)	Listed
China (IECS)	Listed
Australia (AICS)	Listed

**Section 16: OTHER INFORMATION**

NARA Ratings	Health	1	Flammability	0	Reactivity	0
Previous Revision Date	7/2004		Reason for Revision	Format change; all sections revised.		
Legend	N/A					
Abbreviations	N/A: Not Applicable					
Disclaimer	<p>The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof.</p> <p>Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet.</p> <p>Additionally, vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in his use of the material.</p>					