

Plasmaterials, Inc.  
 2268 Research Drive  
 Livermore, CA 94550  
 Ph: (925) 447-4030 Fx: (925) 447-4031  
<http://plasmaterials.com>

## MATERIAL SAFETY DATA SHEET

### Section 1- PRODUCT IDENTIFICATION

COMPOSITION <b>CeO<sub>2</sub></b>	PRODUCT NAME <b>Cerium Oxide, Cerium Dioxide, Ceric Oxide, Ceria, Cerium III</b>
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### Section 2- HAZARDOUS INGREDIENTS

Note: Products under normal conditions do not represent an inhalation, ingestion or contact health hazard.

MATERIAL OR COMPONENT	CAS NUMBER	WT%	EXPOSURE LIMITS	
			OSHA PEL (Mg/M3)	ACGIH TLV(MG/M3)
<b>Cerium Oxide</b>	<b>1306-38-3</b>	<b>100</b>	<b>10mg/ m<sup>3</sup></b>	<b>10mg/m<sup>3</sup></b>

### Section 3- PHYSICAL DATA

MATERIAL IS (AT NORMAL CONDITIONS) <input type="checkbox"/> Liquid <input type="checkbox"/> Solid <input type="checkbox"/> Gas <input type="checkbox"/> Other	APPEARANCE AND ODOR <b>Pale yellow, powder or pieces; odorless</b>
MELTING POINT (BASE METAL) <b>2600° C</b>	SPECIFIC GRAVITY <b>7.132gm/cc</b>

### Section 4- FIRE AND EXPLOSION

Flash Point (Method Used) <b>N/A</b>	Flammable Limits <b>Non-Flammable</b>	LEL <b>N.A.</b>	UEL <b>N.A.</b>
EXTINGUISHING MEDIA <b>Use dry chemical, CO<sub>2</sub></b>			
SPECIAL FIRED FIGHTING PROCEDURES <b>Wear approved self-contaminated breathing apparatus and full protective clothing to prevent contact with skin and eyes.</b>			

### Section 5- REACTIVITY DATA

STABILITY <b>Stable</b>	INCOMPATIBILITY (MATERIALS TO AVOID) <b>Strong acids &amp; strong bases.</b>
CONDITIONS TO AVOID <b>Heat &amp; incompatible materials</b>	
HAZARDOUS DECOMPOSITION PRODUCTS <b>Ce</b>	

## Section 6- HEALTH HAZARD GUIDE

### MAJOR EXPOSURE HAZARD

**Inhalation**  **Skin**  **Skin Absorption**  **Eye Contact**  **Ingestion**

**INHALATION:** A respiratory irritant. Coughing, sneezing, difficulty breathing and pulmonary edema may occur. May irritate the mucous membranes of the nose and throat. May affect the central nervous system.

**DERMAL:** Possible irritation, inflammation and redness. May cause dermatitis.

**EYE CONTACT:** Possible irritation, inflammation and redness. Lanthanide salts cause blistering of cornea, and cause a diffused gray opacity, related to the amount of metal, which binds to the cornea.

**OTHER:** Rare earth elements usually have a high toxicity via interperitoreal route and are highly to moderately toxic via subcutaneous route. May act as an anticoagulant. Insoluble cerium oxides are non-toxic when ingested. Intravenous injection of  $CeCl_3$  causes fatty liver degeneration, increased by liver levels of neutral fats, liver, mitochondrial damage, decreased liver glycogen levels and reduces detoxication capacity in rats. Parenteral injection of  $CeCl_3$  has a cardio toxic effect in rats, disturbing cardiac contraction and rhythm. Causes calcification of soft tissue when injected subcutaneously.

### EMERGENCY & FIRST AID PROCEDURES

**INHALATION:** Remove from exposed area to fresh air.

**INGESTION:** Give 1-2 glasses of water or milk to induce vomiting.

**SKIN CONTACT:** Brush material off skin. Wash affected area with soap and water.

## Section 7- SPILL OR LEAK PROCEDURES

### SPILL OR LEAK PROCUDRES

**Wear full protective clothing and a self-containing breathing apparatus. Isolate the area of the spill and insure proper ventilation is available. Vacuum spill using a high efficiency unit and place in a container for proper disposal. Take care not to raise dust.**

### WASTE DISPOSAL METHODS

**Observe all federal, state and local regulations when disposing.**

## Section 8- SPECIAL PROTECTION

### RESPIRATORY

**Wear NIOSH approved dust-mist-fume cartridge respirator.**

### VENTILATION

**Local exhaust: Maintain exposure below TLV. Mechanical ventilation recommended. Handle in controlled atmosphere.**

### EYE PROTECTION & PROTECTIVE CLOTHING

**Wear neoprene protective gloves. Use safety glasses for eye protection. Protective clothing recommended preventing contaminating clothing.**

## Section 9- SPECIAL PRECAUTIONS

**Store in tightly closed container in a cool dry place. Wash hands and face thoroughly after handling.**

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