

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 CeO₂	PRODUCT NAME Cerium Oxide, Cerium Dioxide, Ceric Oxide, Ceria, Cerium III
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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)
Cerium Oxide	1306-38-3	100	10mg/ m³	10mg/m³

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 Pale yellow, powder or pieces; odorless
MELTING POINT (BASE METAL) 2600° C	SPECIFIC GRAVITY 7.132gm/cc

Section 4- FIRE AND EXPLOSION

Flash Point (Method Used) N/A	Flammable Limits Non-Flammable	LEL N.A.	UEL N.A.
EXTINGUISHING MEDIA Use dry chemical, CO₂			
SPECIAL FIRED FIGHTING PROCEDURES Wear approved self-contaminated breathing apparatus and full protective clothing to prevent contact with skin and eyes.			

Section 5- REACTIVITY DATA

STABILITY Stable	INCOMPATIBILITY (MATERIALS TO AVOID) Strong acids & strong bases.
CONDITIONS TO AVOID Heat & incompatible materials	
HAZARDOUS DECOMPOSITION PRODUCTS Ce	

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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