

***Molycorp*** MATERIAL SAFETY DATA SHEET

Product Name: Neodymium Oxide  
Product Code: 5400, 5405, 5410, 5480

Page 1 of 7

**1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

Product Name: Neodymium Oxide  
Product Code: 5400, 5405, 5410, 5480  
Generic Name: Neodymia  
Chemical Family: Lanthanide oxide

Responsible Party: Molycorp, Inc.  
376 South Valencia Avenue  
Brea, California  
92823

For further information contact MSDS Coordinator  
7:30am - 3:30pm Pacific Time, Mon - Fri: 760-856-6680

**EMERGENCY OVERVIEW**

**24 Hour Emergency Telephone Numbers:**

For Chemical Emergencies:  
Spill, Leak, Fire or Accident  
Call CHEMTREC  
North America: (800)424-9300  
Others: (703)527-3887 (collect)

For Health Emergencies:  
California Poison  
Control System  
Cont. US: (800)356-3129  
Outside US: (415)821-5338

**Health Hazards:** Avoid contact with eyes. Wash thoroughly after handling.

**Physical Hazards:** Contact with moisture may generate heat. Avoid contact with moisture.

< Physical Form: Solid  
< Appearance: Grey to pale blue  
< Odor: None

NFPA HAZARD CLASS: Health: 0 (Least)  
Flammability: 0 (Least)  
Reactivity: 0 (Least)

**2. COMPOSITION/INFORMATION ON INGREDIENTS**

HAZARDOUS COMPONENTS	% Weight	EXPOSURE GUIDELINE		
		Limits	Agency	Type
Nuisance Dust, If		10 mg/m3	ACGIH	TWA-Tot.

Issue Date: 12/31/99 Status: Final Revised  
Revised Sections: 1, 2, 3, 5, 8

Product Name: Neodymium Oxide  
Product Code: 5400, 5405, 5410, 5480

Generated	3 mg/m3	ACGIH	TWA-Resp.
CAS# None	15 mg/m3	OSHA	TWA-Tot.
	5 mg/m3	OSHA	TWA-Resp.
	10 mg/m3	MSHA	TWA
	10 mg/m3	Cal.OSHA	TWA-Tot.
	5 mg/m3	Cal.OSHA	TWA-Resp.

<u>OTHER COMPONENTS</u>	<u>% Weight</u>	<u>EXPOSURE GUIDELINE</u>		
		<u>Limits</u>	<u>Agency</u>	<u>Type</u>
Neodymium Oxide CAS# 1313-97-9	95-99+	(See: Nuisance Dust, If Generated)		
Praseodymium Oxide CAS# 12037-29-5	0-3	(See: Nuisance Dust, If Generated)		
Lanthanum Oxide CAS# 1312-81-8	0-1	(See: Nuisance Dust, If Generated)		

Note: State, local or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information.

### 3. HAZARDS IDENTIFICATION

#### POTENTIAL HEALTH EFFECTS:

**Eye:** Dust may be abrasive and irritating to the eyes and cause stinging, watering, and redness.

**Skin:** Dust may be abrasive and mildly irritating to the skin. No harmful effects from skin absorption are expected.

**Inhalation (Breathing):** Low degree of toxicity by inhalation.

**Ingestion (Swallowing):** Low degree of toxicity by ingestion.

**Signs and Symptoms:** Repeated overexposures to dusts may result in irritation of the respiratory tract, pneumoconiosis (dust congested lungs), pneumonitis (lung inflammation), coughing and shortness of breath.

**Cancer:** No data available.

**Target Organs:** Inadequate data available for this material.

Product Name: Neodymium Oxide  
Product Code: 5400, 5405, 5410, 5480

Page 3 of 7

**Developmental:** No data available.

**Pre-Existing Medical Conditions:** Conditions aggravated by exposure may include respiratory (asthma-like) disorders.

#### 4. FIRST AID MEASURES

**Eye:** If irritation or redness develops, move victim away from exposure and into fresh air. Flush eyes with clean water. If symptoms persist, seek medical attention.

**Skin:** First aid is not normally required. However, it is good practice to wash any chemical from the skin.

**Inhalation (Breathing):** First aid is not normally required. If breathing difficulties develop, move victim away from source of exposure and into fresh air. Seek immediate medical attention.

**Ingestion (Swallowing):** First aid is not normally required; however, if swallowed and symptoms develop, seek medical attention.

**Note To Physicians:** Lanthanides, because of their high density, may produce striking abnormalities on chest X-rays. Lanthanides generally are not believed to be fibrogenic and the lesions typically have little or no clinical significance. However, occasional cases of suspected pneumoconiosis have been reported.

#### 5. FIRE FIGHTING MEASURES

**Flammable Properties:** Flash Point: Not applicable  
OSHA Flammability Class: Not applicable  
LEL/UEL: Not applicable  
Autoignition Temperature: Not applicable  
Burn Rate (solids): Not applicable

**Unusual Fire & Explosion Hazards:** No unusual fire or explosion hazards are expected.

**Extinguishing Media:** Use extinguishing agent suitable for type of surrounding fire.

**Fire Fighting Instructions:** For fires beyond the incipient stage, emergency responders in the immediate hazard area should wear bunker gear. When the potential chemical hazard is unknown, in enclosed or confined spaces, or when explicitly required by DOT, a

Issue Date: 12/31/99

Status: Final Revised

Revised Sections: 1, 2, 3, 5, 8

Product Name: Neodymium Oxide  
Product Code: 5400, 5405, 5410, 5480

Page 4 of 7

self-contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8). Isolate immediate hazard area and keep unauthorized personnel out. Contain spill if it can be done with minimal risk. Move undamaged containers from immediate hazard area if it can be done with minimal risk. Cool equipment exposed to fire with water, if it can be done with minimal risk.

## 6. ACCIDENTAL RELEASE MEASURES

Stay upwind and away from spill. Isolate immediate hazard area and keep unauthorized personnel out. Contain spill if it can be done with minimal risk. Wear appropriate protective equipment including respiratory protection as conditions warrant (see Section 8). Prevent spilled material from entering sewers, storm drains, other unauthorized treatment drainage systems, and natural waterways. Notify appropriate federal, state, and local agencies. Sweep up and package appropriately for disposal.

## 7. HANDLING AND STORAGE

**Handling:** The use of appropriate respiratory protection is advised when concentrations exceed any established exposure limits (see Section 2 & 8). Wash thoroughly after handling. Do not wear contaminated clothing or shoes. Use good personal hygiene practice.

**Storage:** Keep container(s) tightly closed. Use and store this material in cool, dry, well-ventilated areas. Store only in approved containers. Protect container(s) against physical damage.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering controls:** If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits (see Section 2), additional ventilation or exhaust systems may be required.

### Personal Protective Equipment (PPE):

**Respiratory:** A NIOSH/MSHA approved air purifying respirator with a type 95 particulate filter may be used under conditions where airborne concentrations are expected to exceed exposure limits (see Section 2). Protection provided by air purifying

Issue Date: 12/31/99  
Revised Sections: 1, 2, 3, 5, 8

Status: Final Revised

Product Name: Neodymium Oxide  
Product Code: 5400, 5405, 5410, 5480

Page 5 of 7

respirators is limited (see manufacturer's respirator selection guide). Use a positive pressure air supplied respirator if there is potential for uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

**Skin:** The use of gloves impermeable to the specific material handled is advised to prevent skin contact and possible irritation (see manufacturer literature for information on permeability).

**Eye/Face:** Approved eye protection to safeguard against potential eye contact, irritation, or injury is recommended. Depending on conditions of use, a face shield may be necessary.

**Other Protective Equipment:** A source of clean water should be available in the work area for flushing eyes and skin. Impervious clothing should be worn as needed.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Note: Unless otherwise stated, values are determined at 20°C (68°F) and 760 mm Hg (1 atm).

Flash Point: Not applicable  
Flammable/Explosive Limits (%): LEL/UEL: Not applicable  
Autoignition Temperature: Not applicable  
Burn Rate (solids only): Not applicable  
Appearance: Grey to pale blue  
Physical State: Solid  
Odor: None  
Vapor Pressure (mm Hg): Zero  
Vapor Density (air=1): Not applicable  
Boiling Point: Not applicable  
Freezing/Melting Point: 2320°C  
Solubility in Water: Nil  
Specific Gravity: 7.3  
Bulk Density: 0.8-1.0 g/cc

## 10. STABILITY AND REACTIVITY

Issue Date: 12/31/99 Status: Final Revised  
Revised Sections: 1, 2, 3, 5, 8

Product Name: Neodymium Oxide  
Product Code: 5400, 5405, 5410, 5480

Page 6 of 7

**Chemical Stability:** Stable under normal conditions of storage and handling. Contact with moisture can generate heat.

**Conditions To Avoid:** None Known

**Incompatible Materials:** None Known

**Hazardous Decomposition Products:** None Known

**Hazardous Polymerization:** Will not occur

#### 11. TOXICOLOGICAL INFORMATION

No definitive information available on carcinogenicity, mutagenicity, target organs or developmental toxicity.

#### 12. ECOLOGICAL INFORMATION

Acute toxicity from this lanthanide product is considered unlikely because related water insoluble lanthanide complexes are formed and dominate in environment aquatic systems.

#### 13. DISPOSAL CONSIDERATIONS

This material, if discarded as produced, is not an RCRA "listed" hazardous waste. However, it should be fully characterized for toxicity prior to disposal (40 CFR 261). Use resulting in chemical or physical change or contamination may subject it to regulation as a hazardous waste. Along with properly characterizing all waste materials, consult state and local regulations regarding the proper disposal of this material.

Container contents should be completely used and containers should be emptied prior to discard. Container rinsate could be considered a RCRA hazardous waste and must be disposed of with care and in full compliance with federal, state and local regulations. Larger empty containers, such as drums, should be returned to the distributor or to a drum reconditioner. To assure proper disposal of smaller empty containers, consult with state and local regulations and disposal authorities.

#### 14. TRANSPORT INFORMATION

Hazard Class or Division: Not classified as hazardous

Issue Date: 12/31/99 Status: Final Revised  
Revised Sections: 1, 2, 3, 5, 8

Product Name: Neodymium Oxide  
Product Code: 5400, 5405, 5410, 5480

Page 7 of 7

#### 15. REGULATORY INFORMATION

This material contains the following chemicals subject to the reporting requirements of **SARA 313** and 40 CFR 372:

--None--

**Warning:** This material contains the following chemicals which are known to the State of California to cause cancer, birth defects or other reproductive harm, and are subject to the requirements of **California Proposition 65** (CA Health & Safety Code Section 25249.5):

--None Known--

This material has not been identified as a carcinogen by NTP, IARC, or OSHA.

**EPA (CERCLA) Reportable Quantity:**

--None--

#### 16. OTHER INFORMATION

Issue Date: 12/31/99  
Previous Issue Date: 12/17/97  
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Issue Date: 12/31/99  
Revised Sections: 1, 2, 3, 5, 8

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