Kurt J. Lesker Company

Cerium oxide CeO2, powder and pieces
Manufacturer MSDS Number: CeO2

SECTION 1 : Chemical Product and Company Identification

MSDS Name: Cerium oxide CeO2, powder and pieces
Manufacturer Name: Kurt J. Lesker Company
Address:
P.O. Box 10
1925 Route 51
Clairton, PA 15025

For emergencies in the US, call CHEMTREC: 800−424−9300
Other Phone: US National Poison Hotline: (800)222−1222
Manufacturer MSDS Creation Date: 06/26/2006
Manufacturer MSDS Revision Date: 06/25/2008
Synonyms:
Cerium oxide, cerium (IV) oxide, cerium dioxide, ceria, ceric dioxide, nidoral.
Chemical Family: Metal oxide
Chemical Formula: CeO2
Molecular Weight: 172.12
DOT HAZARD LABEL
Not Hazardous
Product Codes:
CeO2

SECTION 2 : Hazardous Ingredients/Identity Information

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS#</th>
<th>% Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cerium oxide</td>
<td>1306−38−3</td>
<td>0.0 −100.0 %</td>
</tr>
<tr>
<td>See SECTION IX−ADDITIONAL COMMENTS FOR COSHH Regulations</td>
<td>NA</td>
<td>0.0 −100.0 %</td>
</tr>
</tbody>
</table>

SECTION 3 : Physical And Chemical Characteristics

Physical State/Appearance:
Brownish−white powder and pieces, no odor.

Physical State:
[ ] Gas , [ ] Liquid , [ X ] Solid

pH:
No data.
Vapor Pressure:
NA (VS. AIR OR MM HG)

Vapor Density:
NA (VS. AIR = 1)

Boiling Point:
No data.

Melting Point:
2600.00 deg C (4712.0 deg F)

Solubility:
OTHER SOLUBILITY NOTES: insoluble–dilute acids, soluble–H2SO4

Solubility In Water:
insoluble

Specific Gravity:
7.65 (WATER = 1)

Density:
No data.

Evaporation Point:
NA (VS BUTYL ACETATE=1)

Percent Volatile:
N.A.

Flash Point:
N.A.

Upper Flammable Explosive Limit:
NA

Lower Flammable Explosive Limit:
NA

SECTION 4 : Fire And Explosion Hazards

Flash Point:
N.A.

Flash Point Method:
NON–FLAMMABLE

Upper Flammable or Explosive Limit: NA

Lower Flammable or Explosive Limit: NA

Extinguishing Media:
Not applicable. Use suitable extinguishing media for surrounding materials and type of fire.

Fire Fighting Instructions:
Firefighters must wear full face, self–contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. Fumes from fire are hazardous. Isolate runoff to prevent environmental pollution.

Unusual Fire Hazards:
None recorded.

SECTION 5 : Health Hazards

Applies to All Ingredients:

Route of Exposure:
Inhalation? Yes, Skin? Yes, Eyes? Yes, Ingestion? Yes, Other: N

Potential Health Effects:
Eye Contact:
May cause irritation.
Skin Contact:
May cause irritation, rashes and skin granulomas.

Inhalation:
May cause irritation to the respiratory tract and mucous membrane. Dusts may cause asthma attacks and lung damage such as lung granulomas. Large doses may cause writhing, loss of muscle coordination, labored respiration, sedation, hypotension and cardiovascular collapse.

Ingestion:
Low toxicity by ingestion. May cause gastrointestinal irritation.

Chronic Eye Contact:
No chronic health effects recorded.

Chronic Skin Contact:
May cause dermatitis, sensitivity to heat, itching and skin lesions.

Chronic Inhalation:
Prolonged or repeated inhalation may cause writhing, loss of muscle coordination, labored respiration, sedation, hypotension and cardiovascular collapse.

Chronic Ingestion:
May affect the coagulation rate of the blood.

Carcinogenicity:
NTP? No , IARC Monographs? No , OSHA Regulated? No

Target Organs:
May affect the respiratory system, blood and skin.

Signs/Symptoms:
INHALATION: May cause writhing, ataxia, labored respiration, and sedation. INGESTION: May cause nausea, vomiting, diarrhea, abdominal burning and cramp–like pain. SKIN: May cause redness, itching and burning. EYE: May cause redness, itching, burning and watering.

Other Potential Health Effects:
Carcinogenicity/OTHER INFORMATION: oral–rat LDLO: 1000 mg/kg oral–rat LD50: >5 g/kg

Aggravation of Pre–Existing Conditions:
Pre–existing respiratory disorders.

See "Section II" LD 50/LC 50: See "Carcinogenicity/Other Information"

SECTION 6 : Emergency And First Aid Procedures

Physical Health Hazard:
HEALTH HAZARDS (ACUTE AND CHRONIC): To the best of our knowledge the chemical, physical and toxicological properties of cerium oxide have not been thoroughly investigated and recorded. Cerium is considered a rare earth metal. The symptoms of toxicity of the rare earth elements in animals include writhing, ataxia, labored respiration, walking on the toes with arched back and sedation. The rare earth elements exhibit low toxicity by ingestion exposure. However, the intraperitoneal route is highly toxic while the subcutaneous route is poison to moderately toxic. The production of skin and lung granulomas after exposure to them requires extensive protection to prevent such exposure. (Sax, Dangerous Properties of Industrial Materials, eighth edition)

Eye Contact:
Flush eyes with lukewarm water, lifting upper and lower eyelids, for at least 15 minutes. Seek medical attention if irritation persists.

Skin Contact:
Remove contaminated clothing; brush material off skin; wash affected area with mild soap and water; seek medical attention if irritation persists.

Inhalation:
Remove victim to fresh air; keep warm and quiet; give oxygen if breathing is difficult and seek medical attention if symptoms persist.

Ingestion:
Give 1–2 glasses of milk or water and induce vomiting; seek medical attention if symptoms persist. Never induce vomiting or give anything by mouth to an unconscious person.

SECTION 7 : Reactivity Data

Chemical Stability:
Unstable [ ] Stable [ X ]

Conditions to Avoid:
CONDITIONS TO AVOID – INSTABILITY: None; CONDITIONS TO AVOID – HAZARDOUS POLYMERIZATION: None
Incompatibilities with Other Materials:
Strong acids.
Hazardous Polymerization:
Will occur [ ] Will not occur [ X ]
Hazardous Decomposition Products:
None recorded.

SECTION 8: Precautions For Safe Handling

Spill Cleanup Measures:
Wear appropriate respiratory and protective equipment specified in section VIII–control measures. 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 proper disposal. Take care not to raise dust.

Other Precautions:
None

HAZARD LABEL INFORMATION:
Store in cool, dry area
Store in tightly sealed container
Wash thoroughly after handling

Handling:
None

Hygiene Practices:
WORK/HYGIENIC/MAINTENANCE PRACTICES: Implement engineering and work practice controls to reduce and maintain concentration of exposure at low levels. Use good housekeeping and sanitation practices. 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.

Waste Disposal:
Dispose of in accordance with local, state and federal regulations.

SECTION 9: Control Measures

Ventilation System:
Local Exhaust: If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants to a minimum. Special: None Mechanical (Gen): Good general ventilation is recommended. Other: None

Hand Protection Description:
Neoprene, PVC, butyl gloves

Eye/Face Protection:
Safety glasses

Protective Clothing/Body Protection:
Protective gear suitable to prevent contamination

Respiratory Protection:
NIOSH/MSHA approved respirator
NIOSH approved respirator Impervious gloves Safety glasses

Ingredient Guidelines
Ingredient: Cerium oxide
Guideline Information: ACGIH TLV: NE; OSHA PEL: NE; OTHER LIMITS: NE

Ingredient: See SECTION IX–ADDITIONAL COMMENTS FOR COSHH Regulations
Guideline Information: ACGIH TLV: No data.; OSHA PEL: No data.; OTHER LIMITS: No data.

SECTION 10: Other Information

Cerium oxide:
Section 302:
No

Section 304:
No

Section 313 Toxic Release Form:
No

HMIS:
Health Hazard: 2
Fire Hazard: 0
Reactivity: 0
Personal Protection: E

MSDS Revision Date:
06/25/2008

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Comment:

Abbreviations used
NA=Not Applicable NE: Not Established

Notes:

ADDENDUM : Other Client Information

Notes: 

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