Section 1 - Chemical Product and Company Identification

MSDS Name: Cerium(IV) Oxide, 99.9%
Catalog Numbers: AC199120000, AC199121000, AC199125000
Synonyms: Ceria; Ceric Dioxide; Cerium Dioxide.

Company Identification: Acros Organics BVBA
Janssen Pharmaceuticaalbaan 3a
2440 Geel, Belgium

Company Identification: (USA)
Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410

For information in the US, call: 800-ACROS-01
For information in Europe, call: +32 14 57 52 11
Emergency Number, Europe: +32 14 57 52 99
CHEMTREC Phone Number, US: 800-424-9300
CHEMTREC Phone Number, Europe: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#: 1306-38-3
Chemical Name: Cerium(IV) oxide
%
EINECS#: 215-150-4

Hazard Symbols: None listed
Risk Phrases: None listed

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Caution! The toxicological properties of this material have not been fully investigated. May cause eye, skin, and respiratory tract irritation. Target Organs: None.

Potential Health Effects

Eye: May cause eye irritation.
Skin: May cause mild skin irritation.
Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea.
Inhalation: May cause respiratory tract irritation.
Chronic: No information found.

Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If irritation develops, get medical aid.
Skin: Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. Wash clothing before reuse.
Ingestion: If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid if irritation or symptoms occur.
Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.

Notes to Physician:

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas.

Extinguishing Media: Substance is noncombustible; use agent most appropriate to extinguish surrounding fire. For small fires, use dry chemical, carbon dioxide, water spray or regular foam.

Autoignition Temperature: Not applicable.
Flash Point: Not applicable.
Explosion Limits: Lower: Not available
Explosion Limits: Upper: Not available
NFPA Rating: health: 1; flammability: 0; instability: 0;

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Reduce airborne dust and prevent scattering by moistening with water. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Wash thoroughly after handling. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with skin and eyes. Avoid ingestion and inhalation.

Storage: Keep container closed when not in use. Store in a cool, dry, well-ventilated area away from incompatible substances. No special precautions indicated.

Section 8 - Exposure Controls, Personal Protection

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA - Final PELs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cerium(IV) oxide</td>
<td>none listed</td>
<td>none listed</td>
<td>none listed</td>
</tr>
</tbody>
</table>

OSHA Vacated PELs: Cerium(IV) oxide: None listed

Engineering Controls:
Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to minimize contact with skin.

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a Respirators: NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Powder
Color: white
Odor: odorless
pH: Not available  
Vapor Pressure: Not available  
Vapor Density: 5.9  
Evaporation Rate: Not available  
Viscosity: Not available  
Boiling Point: Not available  
Freezing/Melting Point: 2600 °C (4,712.00 °F) 
Decomposition Temperature: Not available  
Solubility in water: Insoluble in water. 
Specific Gravity/Density: 6.1  
Molecular Formula: CeO2  
Molecular Weight: 172.1188  
Chemical Stability: Stable under normal temperatures and pressures.  
Conditions to Avoid: Incompatible materials, dust generation, excess heat, strong oxidants.  
Incompatibilities with Other Materials: Not available  
Hazardous Decomposition Products: Carbon monoxide, carbon monoxide, carbon dioxide.  
Hazardous Polymerization: Will not occur.  
LD50/LC50: RTECS:  
RTECS#: CAS# 1306-38-3: FK6310000  
LD50/ LC50: CAS# 1306-38-3: Oral, rat: LD50 = >5 gm/kg;  
Carcinogenicity: Cerium(IV) oxide - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.  
Other: See actual entry in RTECS for complete information.  
Disposal Considerations: Dispose of in a manner consistent with federal, state, and local regulations.  
Transport Information: US DOT  
Shipping Name: Not regulated as a hazardous material  
Hazard Class:  
UN Number:  
Packing Group:  
Canada TDG  
Shipping Name: Not available  
Hazard Class:  
UN Number:  
Packing Group:  
European/International Regulations: European Labeling in Accordance with EC Directives  
Hazard Symbols: Not available  
Risk Phrases:  
Safety Phrases:  
S 24/25 Avoid contact with skin and eyes.  
WGK (Water Danger/Protection)
Canada

CAS# 1306-38-3 is listed on Canada's DSL List
Canadian WHMIS Classifications: Not controlled.
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.
CAS# 1306-38-3 is not listed on Canada's Ingredient Disclosure List.

US Federal
TSCA

CAS# 1306-38-3 is listed on the TSCA Inventory.

Section 16 - Other Information
MSDS Creation Date: 10/14/1998
Revision #5 Date 7/20/2009

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantibility or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.

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