

1. PRODUCT AND MANUFACTURER IDENTIFICATION

Product names:

NanoActive[®] - S Cerium Oxide

Manufacturer:

NanoScale Corporation
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Manhattan, KS 66502
(785) 537-0179

Product Information:

(785) 537-0179
24-Hour Chemtrec Emergency Number:
U.S. (800) 424-9300
International (703) 527-3887

2. CHEMICAL COMPOSITION AND EXPOSURE LIMITS

<u>Component</u>	<u>CAS Number:</u>	<u>OSHA PEL:</u> 15mg/m ³	<u>ACGIH TLV:</u>
Cerium oxide	1306-38-3	(Nuisance dust)	Not Established
Deionized Water	7732-18-5	Not Established	Not Established

3. HAZARD IDENTIFICATION AND EMERGENCY OVERVIEW

Appearance and odor: Light-yellow liquid, no odor.

Routes of Exposure: Eye and skin contact, inhalation, ingestion.

Eye Contact: May cause eye irritation.

Skin Contact: May cause mild skin irritation.

Inhalation: (Dust) May cause respiratory tract irritation. Low hazard for usual industrial handling.

Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea. Expected to be a low ingestion hazard.

Acute health hazards: Inhalation of dust may cause irritation of mucus membranes and the upper respiratory tract.

Chronic health hazards: In dry form, repeated or long-term exposure to dust may result in irritation of the respiratory tract, pneumoconiosis (dust-filled lungs), pneumonitis (lung inflammation), coughing, and shortness of breath.

Carcinogen status: NTP: No, IARC: No, OSHA: No

4. FIRST AID MEASURES

Skin: In case of skin contact, flush with copious amounts of soap and water for at least 15 minutes. Get medical aid if irritation develops or persists.

Inhalation: Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aide if cough or other symptoms appear.

Eyes: In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating eyelids with fingers. Seek medical attention if irritation or other symptoms appear.

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.

Note to physicians: Because of their high density, lanthanide compounds such as cerium oxide may cause striking abnormalities in chest x-rays. Lanthanides are not believed to be fibrogenic and the lesions typically have little or no clinical significance. Occasional cases of suspected pneumoconiosis have been reported.

5. FIRE-FIGHTING MEASURES

Aqueous product, for fires involving dried material use water, carbon dioxide, dry chemical, and foam extinguishing agents as necessary during firefighting operations. During a fire, irritating and highly toxic gases may be generated. Cerium oxide is neither flammable nor explosive.

6. ACCIDENTAL RELEASE MEASURES

Cleanup spills immediately using appropriate protective equipment. Dike or dam liquid spills. Vacuum or sweep up dried material and place into a suitable disposal container. Avoid generating dust during transfer of solids. Provide adequate ventilation.

7. HANDLING AND STORAGE

Store in a closed container and in a cool, dry, well-ventilated area.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Use adequate general or local exhaust ventilation to keep airborne solids concentrations below the permissible exposure limits.

Respiratory Protection: Not required under normal use. If mist is present, use an NIOSH approved respirator for mists.

Skin Protection: Wear appropriate protective gloves.

Eye Protection: Wear appropriate protective glasses or chemical safety goggles.

Other Protective Equipment: Wear appropriate protective clothing to minimize contact with skin.

9. PHYSICAL AND CHEMICAL PROPERTIES

Color/Appearance: Light-yellow liquid.

Odor: None

Molecular Weight: 172.12

Boiling point: No data

Melting point: 2000° C

Specific gravity: 7.3 (Water = 1)

10. STABILITY AND REACTIVITY

Stability: Stable under normal temperature and pressures.

Hazardous Polymerization: None reported.

Incompatibility: Strong oxidizing agents.

Decomposition Products: Not known

11. TOXICOLOGICAL INFORMATION

Oral, rat: LD50 > 5g/kg

Animal inhalation studies have shown that pneumoconiosis can develop after prolonged exposure to lanthanide dusts but progression to fibrosis has not been observed. Prolonged exposures to some lanthanides may also result in pneumoconiosis but only rare incidences of pulmonary fibrosis have been reported with cerium oxide.

12. ECOLOGICAL INFORMATION

No information available

13. DISPOSAL CONSIDERATIONS

Disposal should be in accordance with applicable local, state, and federal regulations.

14. TRANSPORT INFORMATION

(49 CFR 172.101-2): not listed

15. REGULATORY INFORMATION

TSCA: Listed in the TSCA inventory.

SARA (Title 313): No reporting requirements.

CERCLA RQ: None

This MSDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

16. OTHER INFORMATION

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