

1. PRODUCT AND MANUFACTURER IDENTIFICATION

Product names:

NanoActive[®] Zinc Oxide

Manufacturer:

NanoScale Corporation
1310 Research Park Drive
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>	<u>ACGIH TLV:</u>
Zinc oxide	1314-13-2	15 mg/m ³ dust	10 mg/m ³ dust

3. HAZARD IDENTIFICATION AND EMERGENCY OVERVIEW

Appearance and odor: Odorless, white powder.

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

Eye Contact: May cause moderate irritation.

Skin Contact: May cause skin irritation.

Inhalation: Zinc oxide dust is considered to be of low toxicity and is classified as a nuisance particulate by the ACGIH. May cause irritation.

Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea.

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

Chronic Health Effects: Prolonged and repeated exposure to skin may cause irritation or dermatitis.

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.

Inhalation: If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If breathing has stopped, give artificial respiration. DO NOT use mouth-to-mouth respiration.

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.

Ingestion: Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of water or milk.

5. FIRE-FIGHTING MEASURES

Zinc oxide is neither flammable nor explosive. Zinc oxide may be exposed to water, carbon dioxide, dry chemical, and foam extinguishing agents as necessary during firefighting operations. Full protective gear and a NIOSH approved self-contained breathing apparatus (SCBA) should be used to protect eyes, skin, and lungs from exposure during firefighting operations around zinc oxide. During a fire, irritating and highly toxic gases, such as zinc oxide fume, may be generated by thermal decomposition or combustion.

6. ACCIDENTAL RELEASE MEASURES

Cleanup spills immediately using appropriate protective equipment. Vacuum or sweep up 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 location. Use dust control and protection in handling and storage. Avoid storage near magnesium, rubber, and strong oxidizers.

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: Use NIOSH approved respirator when use is necessary.

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: White powder

Odor: None

Molecular Weight: 81.37

Boiling Point: No data

Melting Point: 1975° C

Specific Gravity: 5.607 at 20° C

Vapor Pressure: No data

10. STABILITY AND REACTIVITY

Stability: Stable under normal temperature and pressures.

Hazardous Polymerization: None reported.

Incompatibility: Chlorinated rubber, linseed oil, magnesium, hydrogen fluoride, aluminum + hexchloroethane, zinc chloride or phosphoric acid.

Decomposition Products: Toxic gases such as zinc oxide fumes may be released in a fire.

11. TOXICOLOGICAL INFORMATION

Acute Oral Toxicity: LD₅₀ > 2 g/kg

Acute Dermal Toxicity: LD₅₀ > 5 g/kg

Acute Dermal Irritation: PII = 0, non-irritating

Skin Sensitization: Non-sensitizer

Acute Eye Irritation: Moderately irritating

12. ECOLOGICAL INFORMATION

None available.

13. DISPOSAL CONSIDERATIONS

Disposal of zinc oxide 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: Zinc Oxide is 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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