



Unilong Industry Co., Ltd

Add: No.8 Bldg Shuntai, No.2000 Shunhua Rd, High-Tech Zone , Jinan City, Shandong Province, China

Material Safety Data Sheet

Nanometer Zinc Oxide

CAS1314- 13-2

SECTION 1. IDENTIFICATION OF THE PRODUCT AND OF THE COMPANY

Product Name	Nanometer Zinc Oxide
CAS No.	1314- 13-2
Molecular Formula	ZnO
Company:	Unilong Industry Co.,Ltd.
Address	No.8 Bldg Shuntai, No.2000 Shunhua Rd, High-Tech Zone , Jinan City, Shandong Province, China
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SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS NO.	Percentage
Zinc oxide	1314- 13-2	≥99.5

SECTION 3. HAZARDS IDENTIFICATION

Potential Acute Health Hazardous in case of inhalation. Slightly hazardous in Effects: case of skin contact (irritant), of eye contact (irritant), of ingestion.

Potential Chronic Health Effects: CARCINOGENIC EFFECTS: Not available.
MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast.
TERATOGENIC EFFECTS: Not available.
DEVELOPMENTAL TOXICITY: Not available.
Repeated or prolonged exposure is not known to aggravate medical condition.

Eye Exposure: Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.

Skin Exposure: Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops.

Serious Skin Contact: Not available.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Serious Inhalation: Not available.

Ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

Serious Ingestion: Not available.

SECTION 5. FIRE FIGHTING MEASURES

Flammability of the Product: Non-flammable.

Auto-Ignition Temperature: Not applicable.

Special Fire Fighting Procedures: Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing.

Flash Points: Not applicable.

Flammable Limits: Not applicable.

Products of Combustion: Not available.

Fire Hazards in Presence of Various Substances: Not applicable.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Small Spill: Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose

of according to local and regional authority requirements.

Large Spill: Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system . Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

SECTION 7. HANDLING AND STORAGE

Precautions: Keep locked up. Do not ingest. Do not breathe dust. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as acids.

Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above 25°C (77°F).

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection: Safety glasses. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent.

Gloves.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist

BEFORE handling this product.

Exposure Limits: TWA: 5 STEL: 10 (mg/m³) from ACGIH (TLV) [United States] Inhalation
TWA: 15 (mg/m³) from OSHA (PEL) [United States] Inhalation Total.
TWA: 5 STEL: 10 CEIL: 25 (mg/m³) from NIOSH Inhalation
TWA: 5 STEL: 10 (mg/m³) from OSHA (PEL) [United States] Inhalation Respirable. Consult local authorities for acceptable exposure limits.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

appearance: White to yellowish powder
Odor: Odorless.
Taste: Bitter.
Molecular Weight: 81.38 g/mole
Color: White to yellowish-white
pH (1% soln/water): Not applicable.
Melting Point: 1975°C (3587°F)
Boiling Point: Not available.
Volatility: Not available.
Solubility: soluble in cold water, hot water
Soluble in dilute acetic acid, or mineral acids, ammonia, ammonium carbonate, fixed alkali hydroxide solution.

SECTION 10. STABILITY AND REACTIVITY

Stability: The product is stable.
Instability Temperature: Not available.
Conditions of Instability: Not available.
Incompatibility with various substances: Not available.
Corrosive: Non-corrosive in presence of glass.
Special Remarks on Reacts violently with magnesium, linseed oil.

Reactivity: Reacts with hydrochloric acid to produce zinc chloride.
 Reacts with sulfuric acid to produce zinc sulfate.
 Reacts with hydrogen fluoride to produce zinc fluoride tetrahydrate.
 Gradually absorbs CO₂ on exposure to air.
 Sublimes at normal pressure.
 Zinc Oxide reacts with Carbon Monoxide or hydrogen to produce elemental zinc.

Special Remarks on Not available.
 Corrosive

Polymerization: Will not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

Routes of Entry: Dermal contact. Inhalation. Ingestion.

Toxicity to Animals: Acute oral toxicity (LD₅₀): 7950 mg/kg [Mouse].

MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast.

Other Toxic Effects on Humans: Hazardous in case of inhalation. Slightly hazardous in case of skin contact (irritant), of ingestion.

Special Remarks on Not available.

Toxicity to Animals: _____

Special Remarks on Not available.

Toxicity to Animals: _____

Special Remarks on May cause adverse reproductive effects based on animal data. No human data found at this time.

Chronic Effects on Humans: May affect genetic material (mutagenic).

Special Remarks on other Toxic Effects on Humans:

Acute Potential Health Effects: May cause mild skin irritation.

Eyes: May cause mechanical eye irritation and conjunctivitis.

Inhalation: May cause mechanical irritation of the respiratory tract. A few sources claim that finely divided zinc oxide dust can cause "metal fume fever." Zinc oxide dust is generally considered a nuisance dust; adverse effects

are unlikely when exposures are kept under reasonable control. Inhalation of high concentrations of Zinc Oxide fume or dust may cause "Metal Fume Fever." Symptoms of metal fume fever may include a flu-like condition involving headache, chills, fever, sweats, nausea, vomiting, cough, muscle aches and pains, and difficulty breathing ; ulmonary edema. May also affect the liver.

Chronic Potential Health Effects: May cause digestive tract irritation although Zinc oxide has a low toxicity by oral exposure route.

Ingestion: Prolonged or repeated ingestion of zinc oxide may affect blood, metabolism, and the thyroid.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products Biodegradation: Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The product itself and its products of degradation are not toxic.

Special Remarks on the Products of Biodegradation: Not available.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste Disposal: Waste must be disposed of in accordance with federal, state and local environmental control regulations.

SECTION 14. TRANSPORTATION INFORMATION

DOT Classification: Not a DOT controlled material (United States).

Identification: Not applicable.

Special Provisions for Transport: Not applicable.

SECTION 15. REGULATORY INFORMATION

Inventory Status

TSCA 8(b) inventory: Zinc oxide

Other Regulations: This product is on the European Inventory of Existing
EINECS: Commercial Chemical Substances.

WHMIS (Canada): Not controlled under WHMIS (Canada).

HMIS (U.S.A.): Health Hazard: 2
Fire Hazard: 0
Reactivity: 0
Personal Protection: E
National Fire Protection Association (U.S.A.):
Health: 1
Flammability: 0
Reactivity: 0

Protective Equipment: Gloves.
Lab coat.
Dust respirator. Be sure to use an
approved/certified respirator or equivalent.
Safety glasses.

SECTION 16. OTHER INFORMATION

References: Not available.

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made.