

Zinc Oxide
CAS No 1314-13-2

MATERIAL SAFETY DATA SHEET
SDS/MSDS

SECTION 1: Identification of the substance/mixture and of the company/undertaking

- ✓ Product identifiers
 - Product name: **Zinc Oxide**
 - CAS-No. : 1314-13-2
 - Stock No. : TENI19201
- ✓ Relevant identified uses of the substance or mixture and uses advised against
- ✓ Identified uses: Laboratory chemicals, Industrial & for professional use only.
- ✓ Details of the supplier of the safety data sheet
- ✓ Company : Technanoindia Enterprises
2chh13, Kamla Nehru nagar,
Old housing board, Pali
Rajasthan. (306401)
Telephone: +91-95551-63320
Email : sales@technanoindia.com
- ✓ Emergency telephone number
Emergency Phone # : +91 9855404685 (9:00am - 6:00 pm) [Office hours]

SECTION 2: Composition / Information on ingredients

- ✓ Substances Formula : ZnO
- ✓ Molecular weight : 81.39 g/mol
- ✓ CAS-No. : 1314-13-2
- ✓ Hazardous ingredients according to Regulation (EC) No 1272/2008

SECTION 3: Hazard Identification

- ✓ EMERGENCY OVERVIEW
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

- ✓ Potential Health Effects
 - Eye: May cause eye irritation.
 - Skin: May cause skin irritation. May be harmful if absorbed through the skin.
 - Ingestion: May cause irritation of the digestive tract. May be harmful if swallowed.
 - Inhalation: May cause respiratory tract irritation. May be harmful if inhaled.

SECTION 4: First Aid Measures

- ✓ **Eyes:** Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.
- ✓ **Skin:** Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
- ✓ **Ingestion:** Get medical aid. Wash mouth out with water.
- ✓ **Inhalation:** Remove from exposure and move to fresh air immediately. Get medical aid.
- ✓ **Notes to Physician:** Treat symptomatically and supportively.

SECTION 5: Fire-fighting Measures

- ✓ Extinguishing media
 - Suitable extinguishing media**
 - Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
- ✓ Special hazards arising from the substance or mixture Zinc/zinc oxides
- ✓ Advice for firefighters
 - Wear self-contained breathing apparatus for firefighting if necessary.
- ✓ Further information
 - No data available

SECTION 6: Handling and Storage

- ✓ Handling: Minimize dust generation and accumulation.
- ✓ Avoid breathing dust, vapor, mist, or gas.
- ✓ Avoid contact with skin and eyes. Avoid ingestion and inhalation.
- ✓ Storage: Store in a cool, dry place. Store in a tightly closed container.

SECTION 7: 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. Avoid generating dusty conditions. Do not let this chemical enter the environment.

SECTION 8: Exposure controls / personal protection

- ✓ Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice
Wash hands before breaks and at the end of workday.
- ✓ Personal protective equipment

Eye/face protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.

Wash and dry hands.

Body Protection

Impervious clothing, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator (US) or type ABEKP2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9: Physical and Chemical Properties

- ✓ **Physical State:** Powder
- ✓ **Color:** white - yellowish-white
- ✓ **Odor:** odorless
- ✓ **pH:** 7 (50 g/l aq.sol.(susp))
- ✓ **Vapor Pressure:** Not available
- ✓ **Viscosity:** Not available
- ✓ **Boiling Point:** Not available
- ✓ **Freezing/Melting Point:** 1975 deg C (3,587.00°F)
- ✓ **Auto ignition Temperature:** Not available
- ✓ **Flash Point:** Not available
- ✓ **Explosion Limits: Lower:** Not available
- ✓ **Explosion Limits: Upper:** Not available
- ✓ **Decomposition Temperature:** Not available
- ✓ **Solubility in water:** 1.6 mg/l (29°C)
- ✓ **Specific Gravity/Density:** 5.600
- ✓ **Molecular Formula:** ZnO
- ✓ **Molecular Weight:** 81.38

SECTION 10: Stability and Reactivity

- ✓ **Chemical Stability:** Stable under normal temperatures and pressures.
- ✓ **Conditions to Avoid:** Incompatible materials, dust generation.
- ✓ **Incompatibilities with Other Materials: React with** Strong oxidizing agents, acids, bases, magnesium, chlorinated rubber, zinc chloride, hydrogen fluoride. Reacts violently with magnesium when heated, resulting in explosion. Mixture of zinc oxide and chlorinated rubber explode when heated above 215°C.
- ✓ **Hazardous Decomposition Products:** Not available
- ✓ **Hazardous Polymerization:** Will not occur.

SECTION 11: Toxicological Information

Information on toxicological effects	
Acute toxicity	LD50 Oral - Mouse - 7,950 mg/kg(Zinc oxide)

	LC50 Inhalation - Mouse - 2,500 mg/m ³ (Zinc oxide)
Skin corrosion/irritation	Skin - Rabbit(Zinc oxide)
	Result: Mild skin irritation - 24 h
Serious eye damage/eye irritation	Eyes - Rabbit(Zinc oxide)
	Result: Mild eye irritation - 24 h
Respiratory or skin sensitisation	No data available(Zinc oxide)
Germ cell mutagenicity	Hamster Embryo: Unscheduled DNA synthesis, Morphological transformation, Sister chromatid exchange
	Guinea pig: Unscheduled DNA synthesis

Carcinogenicity	IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
Reproductive toxicity	No data available(Zinc oxide)
Specific target organ toxicity - single exposure	No data available(Zinc oxide)
Specific target organ toxicity - repeated exposure	No data available
Aspiration hazard	No data available(Zinc oxide)
Additional Information	RTECS: ZH4810000 Zinc oxide dust or fume can irritate the respiratory tract. Prolonged skin pox. Exposure to high levels of dust or fume can cause metallic taste, ma and nausea followed by fever and chills. Severe overexposure may result in, prolonged or repeated exposure can cause:, Reversible liver enzyme abnormalities., Diarrhoea(Zinc oxide)

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated (Zinc oxide).

SECTION 12: Ecological Information

Eco-toxicity: Daphnia: Daphnia: EC50 >1000 mg/L; 48H.

Fish: Bluegill/Sunfish: LC50 >320 mg/L; 96H.

Fish: Fathead Minnow: LC50: 2246 mg/L; 96H.

Fish: Rainbow trout: LC50: 1.1 mg/L; 96H.

Other: Do not empty into drains.

SECTION 13: Disposal Consideration

Waste treatment methods

Product: Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chem. scrubber.

Contaminated packaging: Dispose of as unused product

SECTION 14: Transport Information

- ✓ HS Code : 28170010
- ✓ CAS : 1314-13-2
- ✓ Proper Shipping Name : Zinc Oxide Nanopowder
- ✓ Air Transport (ICAO & IATA) : Oxide Nanopowder
- ✓ Class : Non Hazardeous
- ✓ Packing group : Normal Packing

SECTION 15: Regulatory Information

Federal and State Regulations: TSCA 8(b) inventory: Zinc Oxide Nanopowder.

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

Other Classifications:

- ✓ WHMIS (Canada): Not controlled under WHMIS (Canada)

- ✓ DSCL (EEC):
 - R36- Irritating to eyes
 - S2- Keep out of the reach of children
 - S46- If swallowed, seek medical advice immediately & show container or label
- ✓ HMIS (U.S.A.):
 - Health Hazard: 1
 - 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. Splash goggles.

SECTION 16: Other Information

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Technanoindia and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.technanoindia.com for additional terms and conditions of sale.