

# Safety Data Sheet

## Zinc Oxide

**CAROLINA**<sup>®</sup>  
www.carolina.com

### Section 1 Product Description

**Product Name:** Zinc Oxide  
**Recommended Use:** Science education applications  
**Synonyms:** Zinc white, Chinese White, CI 77947  
**Distributor:** Carolina Biological Supply Company  
2700 York Road, Burlington, NC 27215  
1-800-227-1150  
**Chemical Information:** 800-227-1150 (8am-5pm (ET) M-F)  
**Chemtrec:** 800-424-9300 (Transportation Spill Response 24 hours)

### Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

**WARNING**



Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

**GHS Classification:**

Hazardous to the aquatic environment - Acute Category 1, Hazardous to the aquatic environment - Chronic Category 1

<b>Acute Toxicity Dermal Contains</b>	100 % of the mixture consists of ingredient(s) of unknown toxicity
<b>Acute Toxicity Inhalation Gas Contains</b>	100 % of the mixture consists of ingredient(s) of unknown toxicity
<b>Acute Toxicity Inhalation Vapor Contains</b>	100 % of the mixture consists of ingredient(s) of unknown toxicity
<b>Acute Toxicity Inhalation Dust/Mist Contains</b>	100 % of the mixture consists of ingredient(s) of unknown toxicity

### Section 3 Composition / Information on Ingredients

<u>Chemical Name</u>	<u>CAS #</u>	<u>%</u>
Zinc Oxide	1314-13-2	100

### Section 4 First Aid Measures

**Emergency and First Aid Procedures**

**Inhalation:** In case of accident by inhalation: remove casualty to fresh air and keep at rest.  
**Eyes:** In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
**Skin Contact:** After contact with skin, wash immediately with plenty of water.  
**Ingestion:** If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

### Section 5 Firefighting Procedures

**Extinguishing Media:** Use dry chemical, CO2 or appropriate foam.  
**Fire Fighting Methods and Protection:** Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.  
**Fire and/or Explosion Hazards:** Fire or excessive heat may produce hazardous decomposition products.  
**Hazardous Combustion Products:** Zinc Oxides

# Safety Data Sheet

## Section 6

## Spill or Leak Procedures

### Steps to Take in Case Material Is Released or Spilled:

No health effects expected from the clean-up of this material if contact can be avoided. Follow personal protective equipment recommendations found in Section 8 of this (M)SDS. Avoid dusting. Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation. Collect spillage.

## Section 7

## Handling and Storage

**Handling:** Avoid release to the environment. Avoid creating and inhaling dust.  
**Storage:** Keep container tightly closed in a cool, well-ventilated place.  
**Storage Code:** Green - general chemical storage

## Section 8

## Protection Information

Chemical Name	ACGIH		OSHA PEL	
	(TWA)	(STEL)	(TWA)	(STEL)
Zinc Oxide	2 mg/m <sup>3</sup> TWA (respirable fraction)	10 mg/m <sup>3</sup> STEL (respirable fraction)	5 mg/m <sup>3</sup> TWA (fume); 15 mg/m <sup>3</sup> TWA (total dust); 5 mg/m <sup>3</sup> TWA (respirable fraction)	N/A

### Control Parameters

#### Engineering Measures:

Local exhaust ventilation or other engineering controls are normally required when handling or using this product to avoid overexposure.

#### Personal Protective Equipment (PPE): Respiratory Protection:

Lab coat, apron, eye wash, safety shower.  
Respiratory protection may be required to avoid overexposure when handling this product. General or local exhaust ventilation is the preferred means of protection. Use a respirator if general room ventilation is not available or sufficient to eliminate symptoms.

#### Respirator Type(s):

None required where adequate ventilation is provided. If airborne concentrations are above the applicable exposure limits, use NIOSH/MSHA approved respiratory protection.

#### Eye Protection:

Wear chemical splash goggles when handling this product. Have an eye wash station available.

#### Skin Protection:

Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

#### Gloves:

No information available

## Section 9

## Physical Data

**Formula:** ZnO  
**Molecular Weight:** 81.40  
**Appearance:** White to off-white Powder  
**Odor:** None  
**Odor Threshold:** No data available  
**pH:** No data available  
**Melting Point:** 1975 C  
**Boiling Point:** No data available  
**Flash Point:** No data available  
**Flammable Limits in Air:** No data available

**Vapor Pressure:** No data available  
**Evaporation Rate (BuAc=1):** No data available  
**Vapor Density (Air=1):** No data available  
**Specific Gravity:** 5.67  
**Solubility in Water:** Practically Insoluble  
**Log Pow (calculated):** No data available  
**Autoignition Temperature:** No data available  
**Decomposition Temperature:** No data available  
**Viscosity:** No data available  
**Percent Volatile by Volume:** No data available

## Section 10

## Reactivity Data

**Reactivity:** Mildly reactive - See below  
**Chemical Stability:** Stable under normal conditions.  
**Conditions to Avoid:** Exposure to moisture  
**Incompatible Materials:** Strong acids, Water, Chlorinated compounds, Rubber, Magnesium

# Safety Data Sheet

**Hazardous Decomposition Products:** Zinc Oxides  
**Hazardous Polymerization:** Will not occur

## Section 11 Toxicity Data

**Routes of Entry:** Inhalation and ingestion.  
**Symptoms (Acute):** Respiratory Irritation, Nausea, Depressed Activity  
**Delayed Effects:** Dermatitis

### Acute Toxicity:

Chemical Name	CAS Number	Oral LD50	Dermal LD50	Inhalation LC50
Zinc Oxide	1314-13-2	Oral LD50 Rat > 5000 mg/kg	Not applicable	Not applicable

### Carcinogenicity:

Chemical Name	CAS Number	IARC	NTP	OSHA
Zinc Oxide	1314-13-2	Not listed	Not listed	Not listed

### Chronic Effects:

**Mutagenicity:** No evidence of a mutagenic effect.  
**Teratogenicity:** No evidence of a teratogenic effect (birth defect).  
**Sensitization:** No evidence of a sensitization effect.  
**Reproductive:** No evidence of negative reproductive effects.  
**Target Organ Effects:**  
**Acute:** Lungs  
**Chronic:** No data available

## Section 12 Ecological Data

**Overview:** This material is not expected to be harmful to the ecology.  
**Mobility:** No data  
**Persistence:** No data  
**Bioaccumulation:** No data  
**Degradability:** No data  
**Other Adverse Effects:** No data

Chemical Name	CAS Number	Eco Toxicity
Zinc Oxide	1314-13-2	Aquatic LC50 (96h) Bluegill Sunfish > 320 ppm Aquatic LC50 (96h) Rainbow Trout 1.1 MG/L Aquatic EC50 (48h) Daphnia 0.098 MG/L

## Section 13 Disposal Information

**Disposal Methods:** Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.  
**Waste Disposal Code(s):** Not Determined

## Section 14 Transport Information

**Ground - DOT Proper Shipping Name:** Not regulated for transport by US DOT.  
**Air - IATA Proper Shipping Name:** Not regulated for air transport by IATA.

## Section 15 Regulatory Information

**TSCA Status:** All components in this product are on the TSCA Inventory.

Chemical Name	CAS Number	§ 313 Name	§ 304 RQ	CERCLA RQ	§ 302 TPQ	CAA 112(2) TQ
---------------	------------	------------	----------	-----------	-----------	---------------

# Safety Data Sheet

Zinc Oxide

1314-13-2

No

No

No

No

No

## Section 16

## Additional Information

Revised: 04/03/2014

Replaces: 04/16/2013

Printed: 06-12-2014

The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

### Glossary

ACGIH	American Conference of Governmental Industrial Hygienists	NTP	National Toxicology Program
CAS	Chemical Abstract Service Number	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
DOT	U.S. Department of Transportation	ppm	Parts per million
IARC	International Agency for Research on Cancer	RCRA	Resource Conservation and Recovery Act
N/A	Not Available	SARA	Superfund Amendments and Reauthorization Act
		TLV	Threshold Limit Value
		TSCA	Toxic Substances Control Act
		IDLH	Immediately dangerous to life and health