



## SAFETY DATA SHEET

### 99.9% ZINC OXIDE

#### SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

##### 1.1. PRODUCT IDENTIFIER

Product name: Zinc Oxide  
Product No.: ZINCOX  
CAS-No.: 1314-13-2  
EC No.: 215-222-5  
REACH: 01-2119463881-32  
Synonym: Zinc Oxide, Zinc white, Calamine, Zincite, Flowers of zinc  
Chemical Formula: ZnO

##### 1.2. RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

Recommended use: Used with stearic acid to activate vulcanisation in the rubber industry;  
In the concrete industry to improve processing time;  
When added to concrete it improves the concretes resistance to water;  
It is used in cigarette filters to remove harmful components;  
As a pigment in coatings and paints;  
In the electronics industry;  
In cosmetic and personal care products.

##### 1.3. DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

HD Chemicals LTD  
UNIT 9 Scott Business Park  
PL2 2PB Plymouth UK

Contact Person responsible for SDS: Mr Peter Konefal, e-mail: [contact@hdchemicals.co.uk](mailto:contact@hdchemicals.co.uk)



## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

**Classification – EC 1272/2008:** Aquatic Acute; Category 1 (H400)  
Aquatic Chronic; Category 1 (H410)

### 2.2. LABEL ELEMENTS



#### SIGNAL WORDS

Warning

#### HAZARD PHRASES

H400 Very toxic to aquatic life  
H410 Very toxic to aquatic life with long-lasting effects

#### PROTECTION PHRASES

P273 Avoid release to the environment  
P391 Collect spillage  
P501 Dispose of contents/container to comply with local, state and federal regulations

#### SAFETY PHRASES

None

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

EC 1272/2008

**Composition information – main constituents**

Substance name	Mol. Formula	REACH	Typical conc. (%w/w)	EINECS No.	CAS-No.	Classification
Zinc Oxide	ZnO	01-2119463881-32	99.9%	215-222-5	1314-13-2	H400, H410

**SECTION 4: FIRST AID MEASURES****4.1. DESCRIPTION OF FIRST AID MEASURES**

**First-aid measures general:** In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and seek medical advice.

**Inhalation:** Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

**Ingestion:** DO NOT INDUCE VOMITING. If swallowed, seek medical advice immediately and show the container or label. Keep person warm and at rest.

**Skin contact:** In case of contact, wash with soap. Remove contaminated clothing and shoes. Wash clothing and shoes before re-use. Get medical attention if irritation occurs.

**Eye contact:** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Symptoms may include irritation and redness. Get medical attention.

**4.2. MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED**

**Inhalation:** Exposure may cause coughing or wheezing.

**Ingestion:** There may be vomiting. There may be soreness and redness of the mouth and throat.

**Skin contact:** There may be mild irritation at the site of contact.

**Eye contact:** There may be irritation and redness.



#### **4.3. INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED**

Treat symptomatically.

### **SECTION 5: FIREFIGHTING MEASURES**

#### **5.1. EXTINGUISHING MEDIA**

Suitable extinguishing media: Use an extinguishing media suitable for the surrounding fire. Recommended: alcohol-resistant foam, CO<sub>2</sub> blanket, water spray or mist.

Unsuitable extinguishing media: No information available.

#### **5.2. SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE**

Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard. Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

#### **5.3. ADVICE FOR FIRE-FIGHTERS**

Fire fighters should wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes.

### **SECTION 6: ACCIDENTAL RELEASE MEASURES**

#### **6.1. PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES**

Ensure adequate ventilation. Use personal protective equipment. Avoid dust formation. Do not breathe vapour. Mark out the contaminated area with signs and prevent access to unauthorised personnel.

#### **6.2. ENVIRONMENTAL PRECAUTIONS**

Do not allow to enter drains or watercourses. If the product contaminates lakes, rivers, or sewers, inform the appropriate authorities in accordance with local regulations.

#### **6.3. METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP**

Remove spillage with vacuum cleaner. If not possible, collect spillage with shovel, broom or the like. Flush area with plenty of water. Collect spillage in containers, seal securely and deliver for disposal according to local regulations.



## SECTION 7: HANDLING AND STORAGE

### 7.1. PRECAUTIONS FOR SAFE HANDLING

Precautions should be taken to prevent the formation of dusts in concentrations above flammable, explosive or occupational exposure limits. Electrical equipment and lighting should be protected to appropriate standards. Mixture may charge electrostatically: always use earthing leads when transferring from one container to another. Operators should wear antistatic footwear and clothing and floors should be of the conducting type. Keep away from heat, sparks and flame. Avoid contact with skin and eyes. Do not eat, drink, or smoke in areas where the material is used. Wash thoroughly after handling the material. Do not allow to enter drains or watercourses. This product should be used in accordance with good industrial safety practices, industrial hygiene standards and all local state, international regulations. Ensure adequate exhaust ventilation.

For precautions see section 2.2.

### 7.2. CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Store in original container protected from direct sunlight in a dry, cool, well-ventilated covered area, away from incompatible materials and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Keep away from acids or bases. Store in accordance with local regulations.

### 7.3. SPECIFIC END USE(S)

See section 1.2.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. CONTROL PARAMETERS/EXPOSURE GUIDELINES

Occupational Exposure Limit Values (Zinc Oxide):

CAS NO	Exposure limit	Value	Name of Agent
1314-13-2	TWA – 8 Hrs	5 mg/m <sup>3</sup>	dust
1314-13-2	STEL – 15 Min	10 mg/m <sup>3</sup>	dust

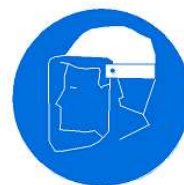
**Engineering controls:** Adequate ventilation should be provided so that Occupational Exposure Limits are not exceeded. Local Exhaust Ventilation is normally recommended.



EYE PROTECTION



RESPIRATOR



FACE SHIELD



PROTECTION WEAR



HAND PROTECTION



WASH YOUR HAND

- Protective equipment:** Where LEV is not practicable and exposure is likely to be excessive, approved respiratory protection to CEN standards prEN 140, 141, 143 or 149 should be worn. Protective gloves and overalls are recommended for prolonged contact.
- Respiratory equipment:** Avoid Creating Dust. Use a properly fitted, particulate filter respirator complying with an approved standard if exposure levels exceed limits. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- Skin and body protection:** Chemical-resistant, impervious gloves with an approved standard should be worn at all times when handling Zinc oxide. Wear suitable chemical work clothing.
- Eye/Face protection:** Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Powder
Colour:	White
Odour:	Almost odourless
Initial boiling point (°C):	2360°C
Melting point (°C):	1975°C decomposes



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Freezing point:	No data available
Relative density:	No data available
Specific gravity / density:	5.61 g/cm <sup>3</sup>
Vapour density:	Not available
Vapour pressure:	Not available
Flash point (°C):	Not available
Molecular mass:	81.41 g/mol
Auto-ignition temperature:	Not applicable
Oxidizing properties:	Not available
Decomposition temperature:	Not available
Molecular formula:	ZnO

## SECTION 10: STABILITY AND REACTIVITY

### 10.1. REACTIVITY

This material is stable under normal, dry conditions.

### 10.2. CHEMICAL STABILITY

Zinc Oxide is stable under normal ambient.

### 10.3. POSSIBILITY OF HAZARDOUS REACTIONS

Hazardous reactions will not occur under normal conditions of storage and use.

### 10.4. CONDITIONS TO AVOID

Decomposition takes place from temperatures above: 1975 °C.

### 10.5. INCOMPATIBLE MATERIALS

No data available.

### 10.6. HAZARDOUS DECOMPOSITION

None under normal conditions.



## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. INFORMATION ON TOXICOLOGICAL EFFECTS

<b>TOXIC DOSE</b>	<b>LD50 Oral – Rat – &gt; 5000 – 20 000 mg/kg</b>
	<b>LD50 Dermal – Rat – &gt; 2000 mg/kg</b>
	<b>LD50 Inhalation – not known</b>

Prolonged or repeated exposure above Occupational Exposure. Standards may cause fibrosis of the lungs.

<b>Inhalation:</b>	Exposure may cause coughing or wheezing.
<b>Ingestion:</b>	There may be vomiting. There may be soreness and redness of the mouth and throat.
<b>Skin contact:</b>	There may be mild irritation at the site of contact.
<b>Eye contact:</b>	There may be irritation and redness.
<b>Delayed/immediate effects:</b>	There may be vomiting and diarrhoea.

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. TOXICITY

#### Aquatic Toxicity:

Toxicity to fish:	LC50: 1.1 mg/l, 96h (Oncorhynchus mykiss)
Toxicity to daphnia magna:	EC50: 2.2 mg/l, 48h
Toxicity to algae:	IC50: 0.1-1.0 mg/l, 72h

Very toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

### 12.2. PERSISTENCE AND DEGRADABILITY

The product is not readily biodegradable.

### 12.3. BIOACCUMULATIVE POTENTIAL

No evidence to indicate significant bioaccumulative potential.





#### 12.4. MOBILITY

No evidence to indicate significant mobility in soil. The product is insoluble in water.

#### 12.5. RESULTS OF PBT AND vPvB ASSESSMENT

Zinc Oxide is not PBT or vPvB.

#### 12.6. OTHER ADVERSE EFFECTS

No data available.

### SECTION 13: DISPOSAL CONSIDERATIONS

**Waste disposal recommendations:** Waste to be treated as controlled waste. Dispose of in a regulated landfill site or other method for hazardous or toxic wastes. Disposal to licensed waste disposal site in accordance with local Waste Disposal Authority.

**Uncleaned packaging:** Disposal must be made according to official regulations.

### SECTION 14: TRANSPORT INFORMATION

#### IMDG

UN number	3077
UN proper shipping name	Environmentally hazardous substance, solid, n.o.s.
Transport hazard class(es)	9
Packing group	III

#### ADR/RID

UN number	3077
UN proper shipping name	Environmentally hazardous substance, solid, n.o.s.
Transport hazard class(es)	9
Packing group	III

#### IATA

UN number	3077
UN proper shipping name	Environmentally hazardous substance, solid, n.o.s.
Transport hazard class(es)	9
Packing group	III



## SECTION 15: REGULATORY INFORMATION

### 15.1. SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE

This SDS complies with GHS-CLP, EU / reach regulations. Classification, labeling and packaging have been performed according to EU regulation (EC) No 1272/2008 of the European parliament and the council.

In accordance with Reach regulation (EC), 1907/2006, the product does not contain any substances that are considered as subject to listing in annex XIV, inventory of substances requiring authorization (Authorization list). The substance is not subject to the provisions of annex XVII (restriction entries) of the Reach regulation (EC) 1907/2006.

The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (S.I 2009 No. 716).

National inventories

- EINECS/ELINCS/NLP (Europe);
- REACH (Europe).

Recommended restriction of use: Only for industrial use. The fields of application are specified in the Technical Information belonging to the product. Any further intended application should be discussed with the manufacturer.

### 15.2 CHEMICAL SAFETY ASSESSMENT

No chemical safety Assessment has been carried out for this substance.

## SECTION 16: OTHER INFORMATION

### General information

The information contained in this safety data sheet is provided in accordance with the requirements of the regulations. The product should not be used for purposes other than those shown in section 1 without first referring to the supplier and obtaining written handling instruction. As the specific conditions of use of the product are outside the suppliers control, the user is responsible for ensuring that the requirements of relevant legislation are complied with.

### Revision Comments

This information is provided in a revised format to that previously produced.

Revision Date: 01/10/2018

Revision: 01

Safety Data Sheet Status Approved.



Date printed 01/10/2018

Signature Initials P.K.

**DISCLAIMER:**

If this product is re-distributed and re-formulated for sale, details of its hazards and recommended methods for safe handling must be passed to customers. Customers are urged to ensure that the product is entirely suitable for their own purpose. It is the customer's responsibility to ensure that a suitable and sufficient assessment of the risks created by a work activity using this product is undertaken before this product is used.

**NOTE:**

The information contained in this Safety Data Sheet does not constitute the users own assessment of workplace risk as required by other Health & Safety Legislation (e.g. the Health and Safety at Work Act,1974;the control of Substances Hazardous to Health Regulations,1988). The data given here is based on current knowledge and experience. The purpose of this data sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the product's properties.