ZINC OXIDE
Safety Data Sheet
According to SANS 10234:2019 and SANS 11014:2010
Issue date:03/07/2020 Revision date: 03/07/2025 : Version: 1.0

SECTION 1: Identification

1.1. Product identifier

Trade name : ZINC OXIDE
IUPAC name : zinc oxide
EC-No. : 215-222-5
CAS-No. : 1314-13-2
Product code : 126050xxx
Formula : ZnO

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended uses and restrictions : For laboratory use only

1.3. Supplier's details

Labchem (Pty)Ltd
6 Wakefield Road
Founders Hill
1609 Johannesburg - South Africa
T +27 11 452 1116 - F +27 86 588 0293
techlab@labchem.co.za - www.labchem.co.za

1.4. Emergency telephone number

Emergency number : +27 11 452 1116

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to the United Nations GHS

Specific target organ toxicity — Repeated exposure, Category 2 H373
Hazardous to the aquatic environment — Acute Hazard, Category 1 H400
Hazardous to the aquatic environment — Chronic Hazard, Category 1 H410
Full text of H statements : see section 16

2.2. Label elements

Labelling according to the United Nations GHS

Hazard pictograms (GHS-ZA) :


GHS08


GHS09

Signal word (GHS-ZA) : Warning

Hazard statements (GHS-ZA) : H373 - May cause damage to organs through prolonged or repeated exposure.
H410 - Very toxic to aquatic life with long lasting effects.

Precautionary statements (GHS-ZA) : P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
P273 - Avoid release to the environment.
P314 - Get medical advice/attention if you feel unwell.
P391 - Collect spillage.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

Adverse physicochemical, human health and environmental effects : May cause damage to organs through prolonged or repeated exposure,Very toxic to aquatic life with long lasting effects.

SECTION 3: Composition/information on ingredients

3.1. Substances

IUPAC name : zinc oxide

Substance identification codes: See section 1.1

Name	Product identifier	%	Classification according to the United Nations GHS
zinc oxide (Main constituent)	(CAS-No.) 1314-13-2	≥ 99	STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Get medical advice/attention if you feel unwell.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact : Wash skin with plenty of water.

First-aid measures after eye contact : Rinse eyes with water as a precaution.

First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

No additional information available

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 : Water spray. Dry powder. Foam.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

No additional information available

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Do not breathe dust/fume/gas/mist/vapours/spray.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Collect spillage.

Methods for cleaning up : Mechanically recover the product.

Other information : Dispose of materials or solid residues at an authorized site.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment. Do not breathe dust/fume/gas/mist/vapours/spray.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

ZINC OXIDE (1314-13-2)	
South Africa - Occupational Exposure Limits (Recommended Limits)	
Local name	Zinc oxide fumes
OEL TWA (mg/m³)	5 mg/m³
OEL STEL (mg/m³)	10 mg/m³
Regulatory reference	Government Notice. R: 1179

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment (PPE)

Hand protection : Protective gloves

Eye protection : Safety glasses

Skin and body protection : Wear suitable protective clothing

Respiratory protection : Dust production: dust mask with filter type P1

Personal protective equipment symbol(s):

8.4. Exposure limit values for the other components

No additional information available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Solid
Appearance	:	No data available
Molecular mass	:	81.4 g/mol
Colour	:	No data available
Odour	:	No data available
Odour threshold	:	No data available
pH	:	No data available
pH solution	:	No data available
Relative evaporation rate (butylacetate=1)	:	No data available
Relative evaporation rate (ether=1)	:	No data available
Melting point	:	> 1000 °C Atm. press.: 1 atm
Freezing point	:	Not applicable
Boiling point	:	No data available
Flash point	:	Not applicable
Auto-ignition temperature	:	Not applicable
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	Non flammable.
Vapour pressure	:	No data available
Vapour pressure at 50 °C	:	No data available
Relative vapour density at 20 °C	:	No data available
Relative density	:	No data available
Relative density of saturated gas/air mixture	:	No data available
Density	:	No data available
Relative gas density	:	No data available
Solubility	:	No data available
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Partition coefficient n-octanol/water (Log Kow)	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosive properties	:	No data available
Oxidising properties	:	No data available
Explosive limits	:	Not applicable
Lower explosive limit (LEL)	:	No data available
Upper explosive limit (UEL)	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

ZINC OXIDE (1314-13-2)	
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : May cause damage to organs through prolonged or repeated exposure.

ZINC OXIDE (1314-13-2)	
LOAEL (dermal, rat/rabbit, 90 days)	75 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 410 (Repeated Dose Dermal Toxicity: 21/28-Day Study)
NOAEL (oral, rat, 90 days)	31.52 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity in Rodents)

Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Very toxic to aquatic life with long lasting effects.
Hazardous to the aquatic environment, short-term (acute) : Very toxic to aquatic life.
Hazardous to the aquatic environment, long-term (chronic) : Very toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability

ZINC OXIDE (1314-13-2)	
Persistence and degradability	No additional information available

12.3. Bioaccumulative potential

ZINC OXIDE (1314-13-2)	
Bioaccumulative potential	No additional information available

12.4. Mobility in soil

ZINC OXIDE (1314-13-2)	
Mobility in soil	No additional information available

12.5. Other adverse effects

Ozone : Not classified
Other adverse effects : No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

In accordance with SANS / IMDG / IATA

SANS	IMDG	IATA
14.1. UN number		
Not regulated for transport		
14.2. Proper Shipping Name		
Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)		
Not applicable	Not applicable	Not applicable
	Not applicable	 Not applicable
14.4. Packing group		
Not applicable	Not applicable	Not applicable
14.5. Environmental hazards		
Dangerous for the environment : Yes	Dangerous for the environment : No :	Dangerous for the environment : No
No supplementary information available		

14.6. Special precautions for user

- SANS

No data available

- IMDG

No data available

- IATA

No data available

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health, and environmental national regulations specific for the product

Regulatory reference : SANS 10234:2008; SANS 11014:2010; SANS 10228:2012;SANS 10229:2010; SANS 10232(1,2,4), SANS 10231:2018; Occupational Health and Safety Act 85 of 1993; National Road Traffic Act 93 of 1996.

SECTION 16: Other information

Issue date : 03/07/2020

Revision date : 03/07/2025

Full text of H-statements:

H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

SDS South Africa

The data provided in this Safety Data Sheet (SDS) is correct to the best of our knowledge. The data relates to the specific product as named and is ntended as a guide to the safe handling of the product in all its facets. The data may no longer be valid if the product is used in any process or in combination with other products.This SDS is not a quality specification nor any form of guarantee.