

Safety Data Sheet

According to the International Organization for Standardization, ISO 11014:2009

www.kimleigh.com

TEL: | +27 18 293 1028: | +27 18 285 1014



Reg. No. 1974/000531/07

PO Box 1097 | Potchefstroom | 2520 | South Africa

11 Jasper vd Westhuizen Str | Potchindustria | Potchefstroom | 2531

Trade name: Zinc Oxide

Product range:



SECTION 1: Chemical Product and Company Identification

1.1 Product identifier:

Product name : Zinc Oxide
Chemical formula : ZnO
Chemical Family : Inorganic metal oxides
Synonyms : Zinc white, zinc monoxide
Molar mass : 81.37 g/mol
CAS number : 1314-13-2
EC number : 215-222-5
EC index number : 030-013-00-7

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

Animal feeds, fertilizers.

1.3 Details of the supplier of the safety data sheet:

Kimleigh Chemicals SA (Pty) Ltd

11 Jasper van der Westhuizen Street, Potchindustria, Potchefstroom, North West Province, 2531, South Africa

Tel no: +27 (18) 293-1028

Fax no: +27 (18) 294-4079

Web : www.kimleigh.com


E-mail : sheq@kimleigh.co.za

1.4 Emergency telephone number:

Kimleigh Chemicals SA (Pty) Ltd: Tel: +27 (18) 293-1028

SECTION 2: Hazards Identification

2.1. Classification of the substance:

Classification according to the Global Harmonized System (GHS):	Code:	Pictogram:	Signal word:
Health hazards: Environmental hazards: Very toxic to aquatic life with long lasting effect.	H410	 GHS09	Warning

Safety Data Sheet

According to the International Organization for Standardization, ISO 11014:2009

www.kimleigh.com

TEL: | +27 18 293 1028: | +27 18 285 1014



Reg. No. 1974/000531/07

PO Box 1097 | Potchefstroom | 2520 | South Africa

11 Jasper vd Westhuizen Str | Potchindustria | Potchefstroom | 2531

Trade name: Zinc Oxide

Product range:



Precautionary statements:

- P501 : Dispose of contents/container in accordance with local/regional/national/international regulations.
P273 : Avoid release to the environment.
P391 : Collect spillage.

2.2 Potential health effects:

Routes of entry: Eye contact, inhalation, ingestion, absorbed through skin.

Eyes: May cause eye irritation and local inflammation. Possible corneal burn symptoms include stinging, tearing and redness.

Skin: Causes skin irritation.

Inhalation: Inhalation of dust may cause metal fume fever. Symptoms may include fever, chills, myalgias, vomiting and malaise which most commonly result from inhalation of freshly formed zinc oxide fumes. Complete recovery generally occurs within 24 to 48 hours.

Ingestion: It may cause irritation and/or a burning sensation in the mouth, pharynx, oesophagus and gastrointestinal tract. May have difficulty swallowing. Symptoms include abdominal pain, nausea, vomiting, and diarrhoe. After uptake of large quantities drop in blood pressure, cardiovascular disorder and collapse. Target organs: kidney, pancreas, liver, and lungs.

SECTION 3: Composition/Information on Ingredients

3.1 Substance:

- Substance name:** Zinc Oxide
Appearance: White/odourless powder
Assay % by weight: Zinc (Zn): 98 % minimum

SECTION 4: First Aid Measures

4.1 Description of first aid measures

General information

Consult a physician. Show this material safety data sheet to doctor in attendance.

Following inhalation

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

QAF0351-03	Original date:	31.01.2011	Version:	3.000	Revision date:	27.08.2021	Page 2 of 9
------------	----------------	------------	----------	-------	----------------	------------	-------------

Safety Data Sheet

According to the International Organization for Standardization, ISO 11014:2009

www.kimleigh.com

TEL: | +27 18 293 1028: | +27 18 285 1014



Reg. No. 1974/000531/07

PO Box 1097 | Potchefstroom | 2520 | South Africa

11 Jasper vd Westhuizen Str | Potchindustria | Potchefstroom | 2531

Trade name: Zinc Oxide

Product range:



Following skin contact

In case of contact, immediately flush skin with soap and plenty of water for at least 15 minutes, while removing contaminated clothing and shoes. Wash clothing before reuse. Get medical attention if irritation persists.

Following eye contact

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.

Following ingestion

If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Rinse mouth with water. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

SECTION 5: Firefighting Measures

5.1 Products of combustion:

Oxides zinc.

Explosion hazards in presence of various substances:

Risk of explosion of the product in the presence of static discharge: **NO**.

Risk of explosion of the product in presence of mechanical impact: **NO**.

5.2 Firefighting media and instructions:

Use alcohol-resistant foam, water spray, dry chemical or carbon dioxide.

Protective clothing (Fire): Wear NIOSH approved self-contained breathing apparatus or equivalent and full protective gear.

Special remarks on fire hazards: Prevent fire-fighting water from entering surface water or groundwater. Slow addition of zinc oxide to cover linseed oil varnish causes generation of heat ignition.

Special remarks on explosion hazards: May explode when mixed with chlorinated rubber. Zinc oxide and magnesium/aluminium can react explosively when heated.

SECTION 6: Accidental Release Measures

6.1 Personal Protection: Hands: Nitrile rubber gloves.

Eyes: Splash goggles.

Body: Protective work clothing.

Feet: Safety boots.

QAF0351-03	Original date:	31.01.2011	Version:	3.000	Revision date:	27.08.2021	Page 3 of 9
------------	----------------	------------	----------	-------	----------------	------------	-------------

Safety Data Sheet

According to the International Organization for Standardization, ISO 11014:2009

www.kimleigh.com

TEL: | +27 18 293 1028: | +27 18 285 1014



Reg. No. 1974/000531/07

PO Box 1097 | Potchefstroom | 2520 | South Africa

11 Jasper vd Westhuizen Str | Potchindustria | Potchefstroom | 2531

Trade name: Zinc Oxide

Product range:



Wear appropriate respiratory and personal protection equipment. Isolate spill area and provide ventilation. Avoid dust formation. Avoid breathing vapours, mist or gas. Scoop or vacuum up spill using a vacuum system equipped with a high efficiency particulate air (HEPA) filtration system and place in a properly labeled closed container for further handling and disposal.

6.2 Small spill:

Use appropriate tools and personal protective equipment. Pick up spillage. Dispose of in a waste disposal container. Do not allow to enter sewerage system.

6.3 Large spill: Use appropriate tools and personal protective equipment. Contain material. Take up spillage limiting generation of dust. Dispose of in a waste disposal container. Do not allow to enter sewerage system.

6.4 Environmental Precautions:

Do not allow to enter drains or to be released to the environment.

SECTION 7: Handling and Storage

7.1 Precautions for safe handling

Protective measures

Advice on safe handling

Handle in a well-ventilated area in an enclosed, controlled process. Avoid creating dust. Ensure adequate ventilation if dusts are created. Do not breathe dust or fumes. Wash thoroughly before eating or smoking. See section 8 for information on personal protection equipment.

Advice on safe storage

Store in a cool, dry area. Store material tightly sealed in properly labeled containers. Protect from moisture. Store away from oxidizers. See section 10 for more information on incompatible materials.

SECTION 8: Exposure Controls/Personal Protection

8.1 Control parameters

Engineering controls:

Whenever possible the use of local exhaust ventilation or other engineering controls is the preferred method of controlling exposure to airborne dust and fume to meet established occupational exposure limits. Use good housekeeping and sanitation practices. Do not use tobacco or food in work area. Wash thoroughly before eating or smoking. Do not blow dust off clothing or skin with compressed air.

QAF0351-03	Original date:	31.01.2011	Version:	3.000	Revision date:	27.08.2021	Page 4 of 9
------------	----------------	------------	----------	-------	----------------	------------	-------------

Safety Data Sheet

According to the International Organization for Standardization, ISO 11014:2009

www.kimleigh.com

TEL: | +27 18 293 1028: | +27 18 285 1014



Reg. No. 1974/000531/07

PO Box 1097 | Potchefstroom | 2520 | South Africa

11 Jasper vd Westhuizen Str | Potchindustria | Potchefstroom | 2531

Trade name: Zinc Oxide

Product range:



Occupational exposure limits:

Threshold limit value (ACGIH):	TWA mg/m ³ respirable fraction.
Shortterm exposure:	10 mg/m ³ respirable fraction.
Permissible exposure limit (OSHA):	5 mg/m ³ (fume and respirable fraction). 15 mg/m ³ total dust.
Immediately dangerous to health/life:	500 mg/m ³

8.2 Personal Protection:

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of substance handled.

Respiratory Protection: Use MSHA/NIOSH approved respirator when dust or fumes are present.

Eye Protection: Safety glasses

Skin Protection: Impermeable gloves, protective work clothing as necessary.

Hygiene measures:

Handle in accordance with good industrial hygiene and safety practices. Remove and wash contaminated clothing. Wash hands after use and before eating or smoking. Wash promptly if skin becomes contaminated or wet.

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 product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

SECTION 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance:

Physical state:	Powder
Colour:	White
Odour:	Odourless
Taste:	Bitter
pH (50 g/ℓ H₂O solution at 20°C):	ca. 7

9.2 Other information:

Boiling point:	Not available.
Melting point:	1975 °C.
Vapour pressure:	0 mm Hg 9approx.).
Flammability/explosive limits:	Not available.
Bulk density:	ca. 700 kg/m ³ .

Safety Data Sheet

According to the International Organization for Standardization, ISO 11014:2009

www.kimleigh.com

TEL: | +27 18 293 1028: | +27 18 285 1014



Reg. No. 1974/000531/07

PO Box 1097 | Potchefstroom | 2520 | South Africa

11 Jasper vd Westhuizen Str | Potchindustria | Potchefstroom | 2531

Trade name: Zinc Oxide

Product range:



Relative density (20°C):

5.61 g/m³.

Solubility:

Insoluble in water.

SECTION 10: Stability and Reactivity

10.1 Reactivity and stability

The product is stable under recommended conditions of storage and use.

10.2 Hazardous decomposition products

Oxides of zinc.

10.3 Incompatibility with various substances

Avoid contact with strong oxidising agents, alkali metals, alkaline earth metals, hydrogen peroxide, linseed oil. Reacts violently with aluminium and magnesium powders and with chlorinated rubber on heating causing fire and explosion hazard.

10.4 Hazardous polymerization

Will not occur.

SECTION 11: Toxicological Information

11.1 Information on toxicological effects:

	Effect dose / concentration	Value(s)	Species
Acute oral toxicity	LD50	>5,000 mg/kg	Rat
Inhalative	LC50	2500 mg/m ³	Mouse
Skin irritation	Mild	500 mg/24 h	Rabbit
Eye irritation	Mild	500 mg/24 h	Rabbit

11.2 Other information:

Acute and chronic effects on humans:

Following inhalation

May be harmful if inhaled. Inhalation may cause damage or irritation of respiratory tract. Inhalation of large quantities of 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

Safety Data Sheet

According to the International Organization for Standardization, ISO 11014:2009

www.kimleigh.com

TEL: | +27 18 293 1028: | +27 18 285 1014



Reg. No. 1974/000531/07

PO Box 1097 | Potchefstroom | 2520 | South Africa

11 Jasper vd Westhuizen Str | Potchindustria | Potchefstroom | 2531

Trade name: Zinc Oxide

Product range:



reasonable control. Symptoms can include headache, chills, fever, sweats, muscle ache, nausea, vomiting, difficulty breathing, dry throat, metallic taste in mouth, blurred vision, and coughing. May also affect liver.

Following skin contact

In case of contact, immediately flush skin with soap and plenty of water for at least 15 minutes, while removing contaminated clothing and shoes. Wash clothing before reuse. Get medical attention if irritation persists.

Following eye contact

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.

Following ingestion

If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Rinse mouth with water. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Carcinogenicity:

No component of this product presented at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Toxicity to reproductive system:

Not available.

Mutagenic effects:

Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast.

Genotoxicity in vitro (Hamster)	Embryo. Unscheduled DNA synthesis. Morphological transformation. Sister chromatid exchange.
Genotoxicity in vivo (Guinea pig)	Inhalation. Unscheduled DNA synthesis.

SECTION 12: Ecological Information

12.1 Ecotoxicity:

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

Fish: *Onchorhynchus mykiss* LC50: 1.1 mg/l (96h)

QAF0351-03	Original date:	31.01.2011	Version:	3.000	Revision date:	27.08.2021	Page 7 of 9
------------	----------------	------------	----------	-------	----------------	------------	-------------

Safety Data Sheet

According to the International Organization for Standardization, ISO 11014:2009

www.kimleigh.com

TEL: | +27 18 293 1028: | +27 18 285 1014



Reg. No. 1974/000531/07

PO Box 1097 | Potchefstroom | 2520 | South Africa

11 Jasper vd Westhuizen Str | Potchindustria | Potchefstroom | 2531

Trade name: Zinc Oxide

Product range:



Daphnia: *Daphnia magna* EC50: > 1 mg/l (48h)
Algae: *Pseudokirchneriella subcapitata* (IC50): 0.17 mg/l (72h)

12.2 Mobility:



Do not allow to enter water or soil.

SECTION 13: Disposal Considerations

13.1 Treatment:

Consultation with a permitted waste disposal site (TSD) should be accomplished. Always contact a permitted waste disposal site (TDS) to assure compliance with all current, local, national, and governmental regulations.

SECTION 14: Transport Information

	Land transport (ADR/RID)	Inland waterway transport (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
14.1 UN No.	3077	3077	3077	3077
14.2 UN Proper shipping name	Environmental hazardous substance, Solid, n.o.s. (Zinc Oxide)	Environmental hazardous substance, Solid, n.o.s. (Zinc Oxide)	Environmental hazardous substance, Solid, n.o.s. (Zinc Oxide)	Environmental hazardous substance, Solid, n.o.s. (Zinc Oxide)
14.3 Transport hazard class(es)	Class 9	Class 9	Class 9	Class 9
Hazard label(s)	 GHS09			
14.4 Packing group	III	III	III	III
14.5 Transport label				

Safety Data Sheet

According to the International Organization for Standardization, ISO 11014:2009

www.kimleigh.com

TEL: | +27 18 293 1028: | +27 18 285 1014

Reg. No. 1974/000531/07

PO Box 1097 | Potchefstroom | 2520 | South Africa

11 Jasper vd Westhuizen Str | Potchindustria | Potchefstroom | 2531

Trade name: Zinc Oxide

Product range:



Section 15: Regulatory Information

15.1 Republic of South Africa Regulations:

National Water Act 36 of 1998. Occupational Health and Safety Act, 1993. Environmental Conservation Act 73 of 1989. Hazardous Substances Act, 1973. Provincial Ordinances and Local By-laws.

SECTION 16: Other Information

16.1 Hazardous material identification system:

HAZARD INDEX		PERSONAL PROTECTION INDEX	
4	Severe Hazard	A	G
3	Serious Hazard	B	H
2	Moderate Hazard	C	I
1	Slight Hazard	D	J
0	Minimal Hazard	E	K
* An asterik or other designation corresponds to additional information on a data sheet or separate chronic effects notification		F	X
HEALTH 0 2		Consult your supervisor or S.O.P. for "Special" handling directions	
FLAMMABILITY 0		A	n
PHYSICAL HAZARD 0		o	p
Personal Protection C		q	r
		s	t
		u	w
		y	z

16.2 Legislation related to safety data sheets:

This safety data sheet has been designed in accordance with the International Organization for Standardization.

16.3 Disclaimer:

KIMLEIGH CHEMICALS SA (Pty) Ltd provides the information contained herein in good faith but does not assume any liability whatsoever for its accuracy or completeness. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.