



# SAFETY DATA SHEET

Revision date: 11-Sep-2024

Revision Number 7

## Section 1: Identification

### Product identifier

**Product Name** ZINC OXIDE

**Product Code(s)** 000031023401

### Other means of identification

**CAS No.** 1314-13-2

**Synonyms** Zinc white; Chinese white; C.I. Pigment White 4; C.I. 77947.

### Recommended use of the chemical and restrictions on use

**Recommended use** Industrial applications: Production of rubber, production of tyres, varistors, ceramics, glass, manufacture of chemicals, manufacture of lubricants, agricultural industry ferrites, manufacture of cosmetics, veterinary product, pharmaceuticals, plastics, glues, pigments to paint and printing inks, enamels.

**Uses advised against** No information available

### Details of the supplier of the safety data sheet

#### **Supplier**

IXOM Operations Pty Ltd (Incorporated in Australia)  
NZBN: 9429041465226  
Street Address: 166 Totara Street  
Mt Maunganui South  
New Zealand

Telephone Number: +64 9 368 2700

Facsimile: +64 9 368 2710

### Emergency telephone number

**Emergency Telephone** 0 800 734 607 (ALL HOURS)

Please ensure you refer to the limitations of this Safety Data Sheet as set out in the "Other Information" section at the end of this Data Sheet.

## Section 2: Hazard identification

Classified as a Dangerous Good according to NZS 5433 Transport of Dangerous Goods on Land; DANGEROUS GOODS.

Classified as hazardous according to criteria in the Hazardous Substances (Hazard Classification) Notice 2020.

### GHS Classification

<b>Acute aquatic toxicity</b>	Category 1
<b>Chronic aquatic toxicity</b>	Category 1

### Label elements



**Signal word**  
Warning

**Hazard statements**

H410 - Very toxic to aquatic life with long lasting effects

**Precautionary Statements - Prevention**

Avoid release to the environment.

Collect spillage.

**Precautionary Statements - Storage**

No storage statements.

**Precautionary Statements - Disposal**

Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable.

**Other hazards which do not result in classification**

No information available.

### Section 3: Composition/information on ingredients

Chemical name	CAS No.	Weight-%
Zinc oxide	1314-13-2	>=99%

### Section 4: First-aid measures

**Description of first aid measures**

**General advice**

For advice, contact a Poisons Information Centre (e.g. phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.

**Inhalation**

Remove to fresh air. Do not breathe dust. If breathing is difficult, (trained personnel should) give oxygen. If breathing has stopped, give artificial respiration. Get medical attention immediately.

**Eye contact**

Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

**Skin contact**

Wash skin with soap and water. (Call a physician if symptoms occur).

**Ingestion**

Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

**Most important symptoms and effects, both acute and delayed**

**Symptoms**

No information available.

**Effects of Exposure** No information available.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians** Treat symptomatically. Absorption of zinc compounds occurs in the small intestine. The metal is heavily protein bound. Elimination results primarily from faecal excretion.

## **Section 5: Fire-fighting measures**

**Hazchem code** 2Z

**Suitable Extinguishing Media**

**Suitable Extinguishing Media** Use extinguishing agent suitable for type of surrounding fire.

**Unsuitable extinguishing media** Water.

**Specific hazards arising from the chemical**

**Specific hazards arising from the chemical** Non-combustible. Environmentally hazardous.

**Special protective actions for fire-fighters**

**Special protective equipment and precautions for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

## **Section 6: Accidental release measures**

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid generation of dust. Use personal protective equipment as required. Wash thoroughly after handling.

**Other information** Refer to protective measures listed in Sections 7 and 8.

**For emergency responders** Use personal protection recommended in Section 8.

**Environmental precautions**

**Environmental precautions** See Section 12 for additional Ecological Information.

**Methods and material for containment and cleaning up**

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Use appropriate personal protective equipment (PPE). Carefully shovel or sweep up spilled material and place in suitable container. Avoid generating dust.

**Precautions to prevent secondary hazards**

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

## **Section 7: Handling and storage**

**Precautions for safe handling****Advice on safe handling**

Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid generation of dust. Ensure adequate ventilation. Use personal protection equipment. Wash thoroughly after handling.

**General hygiene considerations**

Avoid contact with skin, eyes or clothing. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product. Regular cleaning of equipment, work area and clothing is recommended.

**Conditions for safe storage, including any incompatibilities****Storage Conditions**

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep container closed when not in use.

**Incompatible materials**

Acids. Alkalis.

**Section 8: Exposure controls/personal protection****Control parameters****Exposure Limits**

Chemical name	New Zealand	Australia	ACGIH TLV	United Kingdom
Zinc oxide 1314-13-2	TWA: 0.1 mg/m <sup>3</sup> TWA: 2 mg/m <sup>3</sup> STEL: 0.5 mg/m <sup>3</sup> STEL: 5 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup> STEL: 10 mg/m <sup>3</sup>	TWA: 2 mg/m <sup>3</sup> respirable particulate matter STEL: 10 mg/m <sup>3</sup> respirable particulate matter	-

As published by the New Zealand Workplace Health & Safety Authority.

WES - TWA (Workplace Exposure Standard - Time Weighted Average) - The eight-hour, time-weighted average exposure standard is designed to protect the worker from the effects of long-term exposure.

WES - STEL (Workplace Exposure Standard - Short Term Exposure Limits) - The 15 minute average exposure standard. Applies to any 15 minute period in the working day and is designed to protect the worker against adverse effects of irritation, chronic or irreversible tissue change, or narcosis that may increase the likelihood of accidents. The WES-STEL is not an alternative to the WES-TWA; both short-term and eight-hour, time-weighted average exposures should be determined.

These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

**Appropriate engineering controls****Engineering controls**

Apply technical measures to comply with the occupational exposure limits.

If in the handling and application of this material, safe exposure levels could be exceeded, the use of engineering controls such as local exhaust ventilation must be considered and the results documented. If achieving safe exposure levels does not require engineering controls, then a detailed and documented risk assessment using the relevant Personal Protective Equipment (PPE) (refer to PPE section below) as a basis must be carried out to determine the minimum PPE requirements.

**Individual protection measures, such as personal protective equipment**

The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

OVERALLS, SAFETY SHOES, SAFETY GLASSES, GLOVES, DUST MASK.



**Eye/face protection**

Glasses.

**Hand protection**

Impervious gloves.

**Skin and body protection**

Overalls. Antistatic boots. Impervious clothing.

**Respiratory protection**

If determined by a risk assessment an inhalation risk exists, wear a dust mask/respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716.

**Environmental exposure controls**

No information available.

## Section 9: Physical and chemical properties

### Information on basic physical and chemical properties

<b>Physical state</b>	Solid
<b>Appearance</b>	Powder
<b>Color</b>	White
<b>Odor</b>	Odourless
<b>Odor threshold</b>	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>pH</b>	6.72	
<b>Melting point / freezing point</b>	1975°C	
<b>Boiling point / boiling range</b>	No data available	
<b>Flash point</b>	Not applicable	None known
<b>Evaporation rate</b>	Not applicable	None known
<b>Flammability (solid, gas)</b>	No data available	None known
<b>Flammability Limit in Air</b>		None known
<b>Upper flammability or explosive limits</b>	Not applicable	
<b>Lower flammability or explosive limits</b>	Not applicable	
<b>Vapor pressure</b>	No data available	
<b>Vapor density</b>	No data available	
<b>Relative density</b>	5.68	
<b>Water solubility</b>	2.9 mg/L (pH >6.07 to <6.55; 20°C)	
<b>Solubility(ies)</b>	No data available	None known
<b>Partition coefficient</b>	No data available	None known
<b>Autoignition temperature</b>	Not applicable	
<b>Decomposition temperature</b>		
<b>Kinematic viscosity</b>	Not applicable	None known
<b>Dynamic viscosity</b>	Not applicable	None known

### Other information

#### Particle characteristics

## Section 10: Stability and reactivity

### Reactivity

**Reactivity** No information available.

### Chemical stability

**Stability** Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

### Explosion data

**Sensitivity to mechanical impact** None.

**Sensitivity to static discharge** None.

### Possibility of hazardous reactions

**Hazardous polymerization** Hazardous polymerization does not occur.

**Possibility of hazardous reactions** Zinc oxide and magnesium can react explosively when heated. Violent or explosive reaction possible with chlorinated rubber on heating. Can react violently (explosively) with magnesium and aluminium on heating.

### Conditions to avoid

**Conditions to avoid** Avoid exposure to moisture. Avoid exposure to air. Dispersal of dust in the air.

### Incompatible materials

**Incompatible materials** Acids. Alkalis.

### Hazardous decomposition products

**Hazardous decomposition products** None known based on information supplied.

## Section 11: Toxicological information

### Acute toxicity

#### Information on likely routes of exposure

**Product Information** No adverse health effects expected if the chemical is handled in accordance with this Safety Data Sheet and the chemical label. Symptoms or effects that may arise if the chemical is mishandled and overexposure occurs are:

**Inhalation** May cause irritation.

**Eye contact** Dust contact with the eyes can lead to mechanical irritation.

**Skin contact** May cause irritation.

**Ingestion** May cause gastrointestinal discomfort if consumed in large amounts.

**Symptoms** No information available.

### Acute toxicity

**Numerical measures of toxicity**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Zinc oxide	> 5000 mg/kg ( Rat )	> 2000 mg/kg ( Rat )	> 5700 mg/m <sup>3</sup> ( Rat ) 4 h

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

<b>Skin corrosion/irritation</b>	Not classified.
<b>Serious eye damage/eye irritation</b>	Not classified.
<b>Respiratory or skin sensitization</b>	Not a skin sensitizer.
<b>Germ cell mutagenicity</b>	No information available.
<b>Carcinogenicity</b>	Not listed as carcinogenic according to IARC. (IARC - International Agency for Research on Cancer).
<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Aspiration hazard</b>	Not classified.
<b>Chronic effects:</b>	Chronic exposure to zinc oxide may cause respiratory tract irritation with nasopharyngitis and laryngitis.
<b>Data used to identify the health effects</b>	Refer to Section 16 for Key literature references and sources for data used to compile the SDS.

**Section 12: Ecological information****Ecotoxicity**

**Aquatic ecotoxicity** Keep out of waterways. Very toxic to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Crustacea
Zinc oxide	-	LC50: =1.55mg/L (96h, Danio rerio)	EC50: 1 mg/l (48h,Daphnia sp.)(1)

**Terrestrial ecotoxicity**

**Persistence and degradability** No information available.

**Bioaccumulative potential**

**Bioaccumulation** There is no data for this product.

**Mobility in soil**

**Mobility** No information available.

**Other adverse effects**

No information available.

**Section 13: Disposal considerations****Waste treatment methods****Waste from residues/unused products**

Dispose of product in packaging in a way that is consistent with the EPA Consolidation 30 April 2021 of the Hazardous Substances (Disposal) Notice 2017 and the Act. Treat the substance using a method that changes the characteristics or composition of the substance so that the substance is no longer a hazardous substance; or export the substance from New Zealand as waste.

Environmentally hazardous substances – if the substance, or if it contains a component that is hazardous to the aquatic environment or bioaccumulative and not rapidly degradable, then any component that is bioaccumulative and not rapidly degradable must be removed. The product may only be discharged into the environment if an environmental exposure limit has been set for the substance (or a component of the substance); and the discharge does not, after reasonable mixing, result in the concentration of the substance in an environmental medium exceeding the environmental exposure limit.

**Contaminated packaging**

For packages that have been in direct contact with hazardous substances, the person must ensure that the package is rendered incapable of containing any substance. It must be disposed of in a manner that is consistent with the requirements for disposal of the substance that it contained, taking into account the material the package is manufactured from.

Packages may only be reused or recycled if:

- the substance has a physical hazard other than corrosive to metal, and has been treated to remove any residual contents of the hazardous substance;
- or for substances that have a health or environmental hazard, or corrosive to metal, the contents of the residue in the package are below the threshold for the substance to be classified as hazardous in the Hazardous Substances (Hazard Classification) Notice 2020.

**Section 14: Transport information****ROAD AND RAIL TRANSPORT**

Classified as a Dangerous Good according to NZS 5433 Transport of Dangerous Goods on Land; DANGEROUS GOODS.

**UN number or ID number**  
**Proper shipping name**  
**Transport hazard class(es)**  
**Packing group**  
**Hazchem code**

3077  
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (ZINC OXIDE)  
9  
III  
ZZ

**IATA**

Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; DANGEROUS GOODS.



UN number 3077  
 UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (ZINC OXIDE)  
 Transport hazard class(es) 9  
 Packing group III

**IMDG** Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; DANGEROUS GOODS.

UN number 3077  
 UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (ZINC OXIDE) MARINE POLLUTANT  
 Transport hazard class(es) 9  
 Packing group III  
 IMDG EMS Fire F-A  
 IMDG EMS Spill S-F  
 Marine pollutant P

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

No information available

**Special precautions for user**

Please refer to the applicable dangerous goods regulations for additional information

## Section 15: Regulatory information

**Safety, health and environmental regulations/legislation specific for the substance or mixture**

**EPA New Zealand HSNO approval code or group standard** HSR002503 - Additives, Process Chemicals and Raw Materials (Subsidiary Hazard)

**National regulations** There are no applicable tolerable exposure limits or environmental exposure limits according to the EPA Controls for Hazardous Substances

**Certified handlers, tracking and controlled substance license requirements** Certified handlers are required for some substances. This includes substances requiring a controlled substance license, and most explosives, vertebrates toxic agents, and certain fumigants. Acutely toxic substances which are a Category 1 or 2, such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information  
 Tracking is required for some highly hazardous substances. These substances need to be under the control of an appropriately trained person or appropriately secured. Please check the Health and Safety at Work Act 2015 for further information  
 Controlled substance licenses are required to possess certain explosives, vertebrate toxic agents and fumigants. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

**International Regulations**

**The Montreal Protocol on Substances that Deplete the Ozone Layer** Not applicable

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

**The Rotterdam Convention** Not applicable

**International Inventories**

**NZIoC** This material is listed on the New Zealand Inventory of Chemicals.  
**TSCA** Contact supplier for inventory compliance status.  
**DSL/NDSL** Contact supplier for inventory compliance status.  
**EINECS/ELINCS** Contact supplier for inventory compliance status.  
**ENCS** Contact supplier for inventory compliance status.

<b>IECSC</b>	Contact supplier for inventory compliance status.
<b>KECL</b>	Contact supplier for inventory compliance status.
<b>PICCS</b>	Contact supplier for inventory compliance status.
<b>AIIIC</b>	This material is listed on the Australian Inventory of Industrial Chemicals.
<b>TCSI</b>	Contact supplier for inventory compliance status.

**Legend:****NZIoC** - New Zealand Inventory of Chemicals**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances**ENCS** - Japan Existing and New Chemical Substances**IECSC** - China Inventory of Existing Chemical Substances**KECL** - Korean Existing and Evaluated Chemical Substances**PICCS** - Philippines Inventory of Chemicals and Chemical Substances**AIIIC- Australian Inventory of Industrial Chemicals****TCSI** - Taiwan Chemical Substance Inventory**Section 16: Other information**

Supplier Safety Data Sheet 12/ 2022

<b>Prepared By</b>	This Safety Data Sheet has been prepared by IXOM Operations Pty Ltd (Toxicology and SDS Services).
<b>Revision date:</b>	11-Sep-2024
<b>Reason(s) For Issue:</b>	5 Yearly Revised Primary SDS Change in Fire Management Requirements

**Revision Note:**

\*\*\*Indicates updated data since last publication.

**Key or legend to abbreviations and acronyms used in the safety data sheet****Legend**

SVHC: Substances of Very High Concern for Authorization:

PBT: Persistent, Bioaccumulative, and Toxic (PBT) Substances

vPvB: Very Persistent and very Bioaccumulative (vPvB) Substances

STOT: Specific Target Organ Toxicity

ATE: Acute Toxicity Estimate

LC50: 50% Lethal Concentration

LD50: 50% Lethal Dose

**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
**	Hazard Designation	+	Sensitizers
C	Carcinogen		

**Key literature references and sources for data used to compile the SDS**

Agency for Toxic Substances and Disease Registry (ATSDR)

U.S. Environmental Protection Agency ChemView Database

European Food Safety Authority (EFSA)

Environmental Protection Agency

Acute Exposure Guideline Level(s) (AEGl(s))

U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act

U.S. Environmental Protection Agency High Production Volume Chemicals

Food Research Journal

Hazardous Substance Database

International Uniform Chemical Information Database (IUCLID)

National Institute of Technology and Evaluation (NITE)

Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)

NIOSH (National Institute for Occupational Safety and Health)  
National Library of Medicine's ChemID Plus (NLM CIP)  
National Library of Medicine's PubMed database (NLM PUBMED)  
U.S. National Toxicology Program (NTP)  
New Zealand's Chemical Classification and Information Database (CCID)  
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications  
Organization for Economic Co-operation and Development High Production Volume Chemicals Program  
Organization for Economic Co-operation and Development Screening Information Data Set  
World Health Organization

**Disclaimer**

**This SDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since IXOM Operations Pty Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.**

**If clarification or further information is needed, the user should contact their IXOM representative or IXOM Operations Pty Ltd at the contact details on page 1.**

**IXOM Operations Pty Ltd's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.**

**End of Safety Data Sheet**