Safety Data Sheet

Zinc oxide

1. Identification

Product identifier:	Zinc oxide
Other means of identification:	HT-2C, HTR, HTA, HTF, HTM, HR 30 and HT-10
Recommended use:	Rubber compounding, agriculture, paints and cosmetics
Restriction on use:	Any that differs from the recommended use
Supplier Name:	Silox Canada 2324 Rue Einstein Québec, Québec Canada, G1P 3S2
Telephone:	418 650-9422
Emergency tel. number:	418 650-9422
Available hours:	8h30 - 17h00 Monday to Friday

2. Hazard identification

Signal word: NONE

Product classification:

This product is not regulated under WHMIS 2015 and HCS 2024.

Hazard statement(s): This product is not a hazardous material.

Precautionary statement(s)

Prevention: Wash hands thoroughly after handling and any other part of the body that may have been exposed to the product. Wear protective gloves, protective clothing, eye and face protection.

Response: Not applicable

Storage: Not applicable

Disposal: Dispose of contents/container in accordance with local, regional, national and/or international regulations in force.

Other hazards: Poison by intravenous route.

See toxicological information, section 11

3. Composition / Information on ingredients

No	CAS No :	Common name and synonyms	Concentration % (w/w)
1	1314-13-2	Zinc(II) oxide. Oxozinc	95.80 - 98.40

4. First-aid measures

If swallowed, irritation, any type of overexposure or symptoms of overexposure occur during use of the product or persists after use, immediately contact a POISON CENTER, an EMERGENCY ROOM or a PHYSICIAN; ensure that the product safety data sheet is available.

Eye contact: Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If irritation, get medical attention.

Skin contact: Remove contaminated clothing immediately. Wash the skin with soap and water. Thoroughly wet contaminated clothing. If irritation, consult a doctor.

Inhalation: Move exposed person to fresh air. Keep this person warm and lying down. Loosen tight clothing such as a collar, tie, belt or waistband. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Get medical attention immediately.

Ingestion: If swallowed, seek medical advice immediately and show the container or label. Keep person warm and at rest. Do not induce vomiting unless instructed by medical personnel.

Symptoms: Inhalation of dust or fumes may cause metal fume fever. This results in symptoms such as fever, chills, cough, muscle pain, weakness, headache, nausea and vomiting. These symptoms can appear a few hours after exposure and usually last 24 to 48 hours. They disappear without leaving any visible aftereffects. Some studies indicate that a fume concentration of 5 mg / m^3 is sufficient to cause metal fume fever. It seems possible that some tolerance can develop so that repeated exposure to zinc oxide fumes does not cause metal fume fever. This tolerance would be lost quickly after a period without exposure (holidays or weekends).

Effects (acute or delayed): Chest pain and decreased lung capacity are sometimes also present if the dust concentration is higher (320-600 mg / m^3). These symptoms usually go away one to four days after the end of exposure. Ingestion of large amounts may cause abdominal pain, diarrhea, nausea and vomiting.

Immediate medical attention and special treatment: No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5. Fire-fighting measures

Suitable extinguishing media: Use dry chemical, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media: Jets of water can facilitate the spread of fire.

Specific hazards arising from the hazardous product: May release dangerous fumes.

Hazardous combustion products: Zinc oxide fumes.

Special protective equipment and precautions for fire-fighters: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions: No action shall be taken involving any personal risk or if you do not have suitable training or protection. Shut off all heating and ignition sources. Avoid breathing dust or mist. Put on appropriate personal protective equipment (see Section 8).

Protective equipment and emergency procedures: Avoid dispersal of spilled material, runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution. Use inert absorbent or retention tubes in the event of a large spill.

Methods and materials for containment and cleaning up: Stop leak if without risk. Move containers from spill area. Contain leaks and pick up with non-combustible absorbent materials such as sand, earth or vermiculite. Then, place in an appropriate waste disposal container according to local regulations. Dispose of via a licensed waste disposal contractor.

7. Handling and storage

Precautions for safe handling: Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Avoid contact with eyes, skin and clothing. Do not ingest. Avoid breathing dust or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Conditions for safe storage: Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) 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.

Incompatibility: With magnesium there is an explosive reaction when heated. The mixture with chlorinated rubber may explode when heated to 215 degrees Celsius.

8. Exposure Controls/ Personal protection

Control parameters:

Occupational exposure limit values:

Alberta

No	CAS No :	Common name and synonyms	8-hour occupational exposure limit (TWA)		15-minute occupational exposure limit (STEL)		Ceiling occupational exposure limit	
			ppm	mg/m^3	ppm	mg/m^3	ppm	mg/m^3
1	1314-13-2	Zinc(II) oxide. Oxozinc	Not listed	2	Not listed	10	Not listed	Not listed

British-Columbia

No	CAS No :	Common name and synonyms	8-hour occupational exposure limit (TWA)		15-minute occupational exposure limit (STEL)		Ceiling occupational exposure limit	
			ppm	mg/m^3	ppm	mg/m^3	ppm	mg/m^3
1	1314-13-2	Zinc(II) oxide. Oxozinc	Not listed	2	Not listed	10	Not listed	Not listed

Ontario

No	CAS No :	Common name and synonyms	8-hour occupational exposure limit (TWA)		15-minute occupational exposure limit (STEL)		Ceiling occupational exposure limit	
			ppm	mg/m^3	ppm	mg/m^3	ppm	mg/m^3
1	1314-13-2	Zinc(II) oxide. Oxozinc	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

Quebec

No	CAS No :	Common name and synonyms	8-hour occupational exposure limit (TWA)		15-minute occupational exposure limit (STEL)		Ceiling occupational exposure limit	
			ppm	mg/m^3	ppm	mg/m^3	ppm	mg/m^3
1	1314-13-2	Zinc(II) oxide. Oxozinc	Not listed	5 in fume, 10 in dust	Not listed	10 in fume	Not listed	Not listed

Saskatchewan

No	CAS No :	Common name and synonyms	8-hour occupational exposure limit (TWA)		15-minute occupational exposure limit (STEL)		Ceiling occupational exposure limit	
			ppm	mg/m^3	ppm	mg/m^3	ppm	mg/m^3
1	1314-13-2	Zinc(II) oxide. Oxozinc	Not listed	2	Not listed	10	Not listed	Not listed

United States

No	CAS No :	Common name and synonyms	IDLH NIOSH	Regulatory Limits			Recommended Limits	
				OSHA PEL		California / OSHA PEL	NIOSH REL	ACGIH ® 2025 TLV ®
				ppm	mg/m^3	8-hour TWA (ST) STEL (C) Ceiling	Up to 10-hour TWA (ST) STEL (C) Ceiling	8-hour TWA (ST) STEL (C) Ceiling
1	1314-13-2	Zinc(II) oxide. Oxozinc	500	Not listed	5 for fume, 15 for total dust, 5 for respirable fraction	5 mg/m^3 for fume, 10 mg/m^3 for total dust, 5 mg/m^3 for respirable fraction (ST) 10 mg/m^3 for fume	5 mg/m^3 for fume, 5 mg/m^3 for total dust, (C) 15 mg/m^3 for total dust (ST) 10 mg/m^3 for fume	2 mg/m^3 (resp.) and for fume (ST) 10 mg/m^3 (resp) and for fume

IDLH: Immediately Dangerous to Life or Health Concentrations
NIOSH: National Institute for Occupational Safety and Health
OSHA: Occupational Safety and Health Administration
PEL: Permissible Exposure Limits
California / OSHA: California Division of Occupational Safety and Health
REL: Recommended Exposure Limits
ACGIH ®: American Conference of Governmental Industrial Hygienists
TLV ®: Threshold Limit Values

Appropriate engineering controls: N/A

Individual protection measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eyes: DO NOT WEAR CONTACT LENSES Wear anti-splash safety goggles.

Hands: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties.

Respiratory: If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. 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.

Others: Wear protective clothing with long sleeves and appropriate safety shoes at all times.

9. Physical and chemical properties

Physical state: Powder
Colour: White to yellow
Odour: Odorless
Melting/Freezing point: 1975 °C (3587 °F)
Initial boiling point/boiling range: Other value
Flammability: Not applicable
Lower flammable/explosive limit: Not applicable
Upper flammable/explosive limit: Not applicable
Flash point: Not applicable
Auto-ignition temperature: Not applicable
Decomposition temperature: Not available
pH: 6.72 - 2 % aqueous solution
Kinematic viscosity: Not applicable
Solubility (in water): 1.2 - 2.9 mg/L at 20 °C
Partition coefficient – n-octanol/water (Log Kow): Not available
Vapour pressure: Not applicable
Density and relative density: 5.609 kg/L at 20 °C (water = 1)
Relative vapour density: Not applicable
Particle characteristics: 10 - 100 µm

10. Stability and reactivity

Reactivity: Stable under recommended conditions of storage and handling.

Chemical stability: The product is chemically stable under normal conditions of use.

Possibility of hazardous reactions: No dangerous or polymerization reactions will not occur under normal conditions of use.

Conditions to avoid: Keep away from incompatible products (see section 7).

Incompatible materials: None known.

Hazardous decomposition products: None.

11. Toxicological information

	Oral	Dermal	Inhalation gases	Inhalation vapours	Inhalation dusts/mists
$ATE_{product}$	> 5 000 mg/kg	> 5 000 mg/kg	N/A	N/A	5.89 mg/l

No	CAS No :	Common name and synonyms	LD_{50} oral mg/kg	LD_{50} skin mg/kg	LC_{50} inhalation ppmV 4h - gases	LC_{50} inhalation mg/l 4h - vapours	LC_{50} inhalation mg/l 4h - dusts-mist
1	1314-13-2	Zinc(II) oxide. Oxozinc	> 5000	> 5000	N/A	N/A	5.7

Routes of exposure: This product is absorbed through the respiratory tract, skin and gastrointestinal tract.

Symptoms: Inhalation of dust or fumes may cause metal fume fever. This results in symptoms such as fever, chills, cough, muscle pain, weakness, headache, nausea and vomiting. These symptoms can appear a few hours after exposure and usually last 24 to 48 hours. They disappear without leaving any visible aftereffects. Some studies indicate that a fume concentration of 5 mg / m^3 is sufficient to cause metal fume fever. It seems possible that some tolerance can develop so that repeated exposure to zinc oxide fumes does not cause metal fume fever. This tolerance would be lost quickly after a period without exposure (holidays or weekends).

Delayed and immediate effects: Chest pain and decreased lung capacity are sometimes also present if the dust concentration is higher (320-600 mg / m^3). These symptoms usually go away one to four days after the end of exposure. Ingestion of large amounts may cause abdominal pain, diarrhea, nausea and vomiting.

Aspiration hazard	N/A
Skin corrosion - Skin irritation	N/A
Serious eye damage - Serious eye irritation - Eye irritation	N/A
Skin sensitization	N/A
Respiratory sensitization	N/A
Specific target organ toxicity – single exposure	N/A
Specific target organ toxicity – single exposure Category 3 Narcotic effects	N/A
Specific target organ toxicity – single exposure Category 3 Respiratory tract irritation	N/A
Specific target organ toxicity – repeated exposure	N/A

No	CAS No :	Common name and synonyms	IARC	ACGIH	Mutagenicity	Effect on reproduction
1	1314-13-2	Zinc(II) oxide. Oxozinc	Not listed	Not listed	No effects shown.	No effects shown.

Cancer classification under IARC (International Agency for Research on Cancer)

Group 1: carcinogenic to humans.
Group 2A: probably carcinogenic to humans.
Group 2B: possibly carcinogenic to humans.
Group 3: not classifiable as to its carcinogenicity to humans.
Group 4: probably not carcinogenic to humans.

Cancer classification under ACGIH (American Conference of Governmental Industrial Hygienists)

Group A1: confirmed human carcinogen.
Group A2: suspected human carcinogen.
Group A3: confirmed animal carcinogen with unknown relevance to humans.
Group A4: not classifiable as a human carcinogen.
Group A5: not suspected as a human carcinogen.

12. Ecological information

Ecotoxicity

No	CAS No :	Common name and synonyms	%	Aquatic Ecotoxicity short term	Aquatic Ecotoxicity long term	Terrestrial Ecotoxicity
1	1314-13-2	Zinc(II) oxide. Oxozinc	95.80 - 98.40	Very toxic to aquatic life.	Very toxic to aquatic life with long lasting effects.	Harmful to the environment.

Persistence and degradability. Bioaccumulative potential. Other adverse effects

No	CAS No :	Common name and synonyms	%	Persistent	Bio-accumulation	Aquatic ecotoxicity
1	1314-13-2	Zinc(II) oxide. Oxozinc	95.80 - 98.40	Yes	No	Yes

Degradability: N/A

Mobility in soil: N/A

13. Disposal considerations

Methods of disposal: The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

14. Transport information

	TDG	DOT	IMDG	IATA
UN Number	3077	3077	3077	3077
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc(II) oxide)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc(II) oxide)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc(II) oxide)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc(II) oxide)
Transport hazard class(es)	9	9	9	9
Packing group	III	III	III	III

Canada - ERAP

Not applicable

United States - Reportable Quantities (RQ)

Not applicable

Transport in bulk (according to Annex II of the International Convention for the Prevention of Pollution From Ships, 1973, as modified by the Protocol of 1978 (MARPOL 73/78), and the International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk (IBC Code)):
N/A

Marine pollutant: Yes

TDG: The identification of marine pollutant is not required for transport by ground.

IMDG: The mark « marine pollutant » is not required when the substance is carried in quantities <= 5L or <= 5 Kg.

Exemption for limited quantity: 5 kg

In accordance with the Canadian Transport of Dangerous Goods regulations by Road, we use the 1.17 exemption when applicable. In accordance with49 CFR article 172.315 for transportation by a mode other than air, we use the Limited quantities exemption when applicable.

Other exemptions: Not applicable

Special precautions: Not applicable

15. Regulatory information

Canada

No	CAS No :	Common name and synonyms	%	DSL	NDSL	NPRI
1	1314-13-2	Zinc(II) oxide. Oxozinc	95.80 - 98.40	X		

United States

No	CAS No :	Common name and synonyms	%	TSCA	PROP-65	RTK
1	1314-13-2	Zinc(II) oxide. Oxozinc	95.80 - 98.40	X		X

The classification of the product and the SDS were developed in accordance with HPR 2015 (rev. 2022) and HCS 2024.

16. Other information

Date: 2025-08-29

Version: 2

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