
1. PRODUCT AND COMPANY IDENTIFICATION

Product name	Zinc Oxide 78%
Synonyms	Animal feed oxide, feed grade oxide.
Product Uses	For use as an animal feed ingredient.
Product Uses Advised Against	Not intended for human consumption.
Details of the supplier of the safety data sheet	
Supplier	Pestell Nutrition
Address	141 Hamilton Rd New Hamburg, Ontario Canada, N3A 2H1
Phone	519-662-2877
Email	qa@pestell.com
Emergency telephone number (24 hr)	Canada: CANUTEC 1 613-996-6666 US: CHEMTREC 1 703-527-3887

2. HAZARDS IDENTIFICATION**GHS Classification**

Acute aquatic toxicity (Category 1)
Chronic aquatic toxicity (Category 1)

GHS Label elements, including precautionary statements

Pictogram

Signal word **WARNING**

Hazard statement(s)

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

Precautionary statement(s)

P273 Avoid release to the environment.
P280 Wear protective gloves/ eye protection/ face protection.
P391 Collect spillage of this product.
P501 Dispose of waste in an approved facility according to local authorities.

HMIS Classification

Health hazard: 1
Flammability: 0
Physical hazards: 0
Personal Protection E

Potential Health Effects

Inhalation May cause respiratory irritation if inhaled.
Skin May cause mild skin irritation.
Eyes May cause mild eye irritation.
Ingestion May be harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : ZnO
Molecular Weight : 81.39 g/mol

Hazardous components

Chemical Name	CAS-No.	Concentration (%)
zinc oxide	1314-13-2	<= 100
lead monoxide	1317-36-8	<= 0.099

4. FIRST AID MEASURES

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Removed contaminated clothing. Wash off with soap and plenty of water. Consult a physician if symptoms persist.

In case of eye contact

Remove contact lenses if applicable. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Most important effects acute or delayed

Zinc oxide dust or fume can irritate the respiratory tract. Prolonged skin contact can produce a severe dermatitis called oxide pox. Exposure to high levels of dust or fume can cause metallic taste, marked thirst, coughing, fatigue, weakness, muscular pain, and nausea followed by fever and chills. Severe overexposure may result in bronchitis or pneumonia with a bluish tint to the skin., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. See a physician.

5. FIREFIGHTING MEASURES

Conditions of flammability

Not flammable or combustible.

Suitable extinguishing media

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

Unsuitable extinguishing media

High volume water jet.

Special protective equipment for firefighters

Wear self-contained breathing apparatus for fire-fighting if necessary.

Hazardous combustion products

Oxides of zinc, zinc.

Explosion data - sensitivity to mechanical impact

No data available.

Explosion data - sensitivity to static discharge

No data available

Specific hazards arising from fire fighting

Do not allow contaminated extinguishing water to enter drains or waterways. Collect extinguisher runoff water separately for safe disposal.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions**

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided. Inform local authorities if water contamination is suspected to have occurred.

Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE**Precautions for safe handling**

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place. Close any opened containers very carefully and tightly and store the bag upright to avoid spills or leaks. Keep away from incompatible materials (see Section 10)

To maintain product quality, do not store in heat or direct sunlight.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limits

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
zinc oxide	1314-13-2	TWA (Respirable)	2 mg/m ³	CA AB OEL
		STEL (Respirable)	10 mg/m ³	CA AB OEL
		TWA (Respirable)	2 mg/m ³	CA BC OEL
		STEL (Respirable)	10 mg/m ³	CA BC OEL
		TWAEV (Fumes)	5 mg/m ³	CA QC OEL
		TWAEV (total dust)	10 mg/m ³	CA QC OEL
		STEV (Fumes)	10 mg/m ³	CA QC OEL
		TWA (Respirable fraction)	2 mg/m ³	ACGIH
		STEL (Respirable fraction)	10 mg/m ³	ACGIH

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Specific engineering controls

Ensure adequate ventilation in work area, such as a fume hood or other localized exhaust system.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	powder
Colour	white

Safety data

pH	no data available
Melting point / freezing point	1975 C (1587 F)
Boiling point	no data available
Flash point	not applicable
Ignition temperature	no data available
Auto-ignition temperature	not flammable
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure	no data available
Density	5.61 g/cm ³
Water solubility	soluble in water
Partition coefficient: n-octanol/water	no data available
Relative vapour density	no data available
Odour	none
Odour Threshold	not applicable
Evaporation rate	no data available

10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Materials to avoid

Strong acids, strong bases.

Conditions to avoid

No data available.

Possibility of hazardous reactions

Possible violent reactions with strong acids to produce heat. Can react with strong bases to form zincates.

Hazardous decomposition products

Formed under fire conditions: zinc oxide and zinc.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Components:

zinc oxide:

- Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
- Acute inhalation toxicity : LC50 (Rat): > 5.7 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity
- Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

lead monoxide:

- Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Assessment: The component/mixture is moderately toxic after single ingestion.
- Acute inhalation toxicity : Acute toxicity estimate : 1.5 mg/l
Test atmosphere: dust/mist
Method: Expert judgement
- Acute dermal toxicity : Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

Skin, rabbit, 500 mg, 24 hr, mild.

Zinc oxide is irritant on skin in the case of humans. Skin inflammation is characterized by itching, scaling, reddening and occasionally blistering.

Serious eye damage/eye irritation

Slightly irritating (rabbit). Slight erythema of the conjunctiva for 2 days, no effect on iris and cornea.

Ingestion

No data available

Inhalation

Generation of dust can cause temporary respiratory irritation that includes coughing, sore throat, sneezing.

Respiratory or skin sensitisation

High amounts of zinc oxide dust or fume inhalation can lead to metal fume fever within 3 to 10 hours of exposure, and include immediate dryness and irritation of the throat, tightness of the chest, and coughing which may later be followed by flu-like symptoms of fever, malaise, perspiration, frontal headache, muscle cramps, low back pain, occasionally blurred vision, nausea, and vomiting. The symptoms are temporary and generally disappear, without medical intervention, within 24 to 48 hours of onset.

Germ cell mutagenicity

- Genotoxicity in vitro : Test species: Bacteria
Method: OECD Test Guideline 471
Result: negative
- Genotoxicity in vivo : Test species: Mammalian-Animal
Method: OECD Test Guideline 475
Result: negative
Remarks: Based on read across from structural related substance:, zinc sulphate

Carcinogenicity

- IARC No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- ACGIH No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
- OSHA No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
- NTP No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Zinc oxide is of no concern for reproductive toxicity (ECHA risk assessment report on Zinc Oxide, 2008)

Teratogenicity

no data available

Specific target organ toxicity - single exposure (Globally Harmonized System)

no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

no data available

Aspiration hazard no data available

Potential Health Effects

- Inhalation** May cause respiratory irritation if inhaled.
Skin May cause mild skin irritation.
Eyes May cause mild eye irritation.
Ingestion May be harmful if swallowed.

Signs and Symptoms of Overexposure

Zinc oxide dust or fume can irritate the respiratory tract. Prolonged skin contact can produce a severe dermatitis called oxide pox. Exposure to high levels of dust or fume can cause metallic taste, marked thirst, coughing, fatigue, weakness, muscular pain, and nausea followed by fever and chills. Severe overexposure may result in bronchitis or pneumonia with a bluish tint to the skin., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Chronic Exposure

No data available.

Synergistic effects

no data available

12. ECOLOGICAL INFORMATION

Toxicity

Acute toxicity for fish (<i>Oncorhynchus mykiss</i>):	LC(50) (96h) 0.14-0.26 mg Zn ²⁺ /L
Acute toxicity for ctustacea (<i>Daphnia magna</i>):	EC(50) (48h) 0.04 – 0.86 mg Zn ²⁺ /L
Acute toxicity for algae (<i>Selenastrum capriocornutum</i>):	EC(50) (72h) 0.136 – 0.150 mg Zn ²⁺

Persistence and degradability

no data available

Bioaccumulative potential

no data available

Mobility in soil

no data available

PBT and vPvB assessment

no data available

Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Very toxic to aquatic life.

13. DISPOSAL CONSIDERATIONS

Product

Avoid release to the environment and the generation of waste wherever possible.

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

TDG UN3077

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc oxide)

Class 9, Packing Group III

Marine Pollutant

Supplementary Information:

Marine pollutants are exempted from classification if they are transported by road or rail only, as given in Section 1.45.1 of the Transportation of Dangerous Goods laws.

Documentation must always match classifications on the packaging.

IMDG UN3077

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc oxide),

Class 9, Packing Group III

Marine Pollutant

EMS-No: F-A, S-F

ICAO/IATA UN3077

ENVIRONMENTALLY HAZARDOUS SUBSTANCE SOLID,
N.O.S. (Zinc oxide)

Class 9, Packing Group III

Marine Pollutant

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ENVIRONMENTALLY HAZARDOUS
SUBSTANCE

SOLID, N.O.S. (Zinc oxide)

Class 9, Packing Group III

Marine Pollutant

15. REGULATORY INFORMATION

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

• Hazardous Materials Identification System,(HMIS)

Health: 1 Fire: 0 Reactivity: 0 Personal Protection: E

Personal Protection: E (recommended only for bulk powder) = Gloves + Mask + Glasses

Definitions Classifications

0 = Minimum 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

16. OTHER INFORMATION

Disclaimer

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Pestell Nutrition and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.

Version: 3

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