

VETPAK SAFETY DATA SHEET

Section 1: Identification of the Substance or Mixture and of the Supplier

Product Name: Zinc Oxide Ultrafine

Recommended Use: Dietary supplement, animal feeds.

Company Details: Vetpak Ltd.

Address: 150 Rickit Road, Te Awamutu.

Telephone Number: (07) 870 2024

Emergency Telephone Number: (07) 870 2024 8.00am to 5.00pm Monday to Friday except public holidays. National Poisons Centre, Department of Preventative and Social Medicine, University of Otago, P O Box 913, Dunedin, New Zealand. Phone (0800) 764-766 24 hours.

Date of Preparation: 25th August 2008

Section 2: Hazards Identification

Hazards Classification: Zinc oxide appears on the GRAS (Generally regarded as safe) list. Hazardous according to the criteria of ERMA NZ. 9.1A, 9.3C

Risk Phrases:

Warning: Toxic to aquatic life.

Harmful to terrestrial vertebrates.

Safety Phrases:

Read label before use.

Read safety data sheet before use.

Avoid release to the environment.

Collect spillage.

Section 3: Composition / Information on Ingredients:

INGREDIENTS:

Pure Substance	CAS Number	Proportion
Zinc Oxide	1314-13-2	99.5%

Section 4: First Aid Measures:

Description of necessary first Aid measures:

Swallowed: Immediately rinse mouth with water, then give 2-4 cups of water to drink provided person is conscious and alert. Do NOT induce vomiting. Seek medical aid

Skin: Remove contaminated clothing. Flush affected area with plenty of water. If irritation persists, seek medical aid.

Eye: Immediately flush eyes with plenty of water holding eyelids open. Seek medical aid.

Inhaled: Remove victim from exposure to fresh air. If not breathing, apply artificial respiration. If breathing is difficult, give oxygen. Seek IMMEDIATE medical aid! Do NOT use mouth-to-mouth resuscitation if breathing has ceased - use a suitable mechanical device such as a bag and mask.

Aggravated medical conditions caused by exposure: Persons with pre-existing skin or respiratory disorders may be more susceptible to the effects from this product.

Notes for Medical Personnel: Treat symptomatically based on individual reactions of patient and judgment of doctor.

Section 5: Fire Fighting Measures



VETPAK SAFETY DATA SHEET

Type of Hazard:

Fire Hazard Properties:

Extinguishing Media & Methods: In case of fire, use appropriate extinguishing media most suitable for surrounding fire conditions.

Recommended Protective Clothing: Fire fighters should wear a self contained breathing apparatus and full protective clothing along with protective equipment.

Section 6: Accidental Release Methods

Emergency Procedures: Personnel involved in the clean up should wear full protective clothing. Eliminate all sources of ignition. Increase ventilation. Stop leak if safe to do so. Avoid generating dust. Do not allow product to reach drains, sewers or waterways. If product does enter a waterway advise the Environmental Protection Authority or your local Waste Management Authority. Use spark-proof tools and equipment.

Methods and Materials for Containment and Clean Up: Contain and sweep/shovel up spills with dust binding material or use an industrial vacuum cleaner. Transfer to a suitable, labeled container and hold for safe disposal.

Section 7: Handling and Storage

Handling Practices: Ensure an eye bath and safety shower are available and ready for use. Observe good personal hygiene practices and recommended procedures. Wash thoroughly after handling. Take precautionary measures against static discharges by bonding and grounding equipment.

Store Site Requirements: Store in a cool, dry, well-ventilated area. Keep containers tightly closed when not in use. Inspect regularly for deficiencies such as damage or leaks. Protect against physical damage. Store away from incompatible materials including magnesium, chlorinated rubber, linseed oil and sources of ignition. Protect from direct sunlight and moisture. Containers should be diked/bunded to prevent build up of static discharges. This product is not classified dangerous according to The Australian Code for the Transport of Dangerous Goods by Road and Rail.

Packaging: Store in original packaging as approved by manufacturer.

Section 8: Exposure Controls / Personal Protection

Workplace Exposure Standards: Zinc Oxide cas no: 1314-13-2 exposure standards; NIOSH: TWA = 5mg/m³ (dust/fume) 500mg/m³ IDLH ACGIH: TWA = 2mg/m³ STEL = 10mg/m³ (respirable fraction) OSHA: TWA = 5mg/m³ (fume), 15mg/m³ (total dust), 5mg/m³ (respirable fraction)

Subsection 2: Engineering Controls: A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.

Subsection 3: Personal Protective Equipment (PPE): RESPIRATOR: Wear an NIOSH approved respirator conforming with EN149. EYES: Chemical safety goggles approved to EN166. HANDS: Suitable gloves to prevent skin exposure (EN374). CLOTHING: Chemical resistant coveralls and boots to prevent skin exposure.

General hygiene: Observe good personal hygiene practices and recommended procedures. Wash thoroughly after handling.

Section 9: Physical and Chemical Properties



VETPAK SAFETY DATA SHEET

Physical State: Solid.

Appearance: White or yellow-white powder.

Formula: ZnO.

Melting Point: 1975° C

Vapour Pressure: N/A.

Specific Gravity: 5.6 (Water = 1)

Flash Point: N/A.

Flammability Limits: Not flammable.

Solubility in Water: Insoluble

Other Properties: Molecular Weight: 81.37 Solubility: Soluble in acids and alkalis. Insoluble in water and alcohol.

Section 10: Stability and Reactivity

Stability of the Substance: Product is stable at room temperature in closed containers under normal conditions of use and storage. Absorbs carbon dioxide from the air.

Conditions to avoid: Avoid excessive heat, generating dust, direct sunlight, moisture, static discharges and high temperatures.

Material to avoid: Incompatible with magnesium, chlorinated rubber, linseed oil and sources of ignition.

Hazardous decomposition Products: Product will emit toxic fumes of zinc oxide which is harmful by inhalation

Hazardous polymerization: Hazardous polymerization has not been reported.

Section 11: Toxicological Information

Toxicity Data: Oral LD50 Mouse: 7950mg/Kg Inhale LC50 Mouse: 2500mg/m³ Eye Rabbit 24hr: 500mg (mild) Skin Rabbit 24hr: 500mg (mild) Carcinogenicity: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Acute Effects:

Swallowed: Moderately toxic to humans by ingestion. May cause gastro-intestinal irritation with nausea, vomiting and diarrhea.

Skin: Prolonged or repeated skin contact may cause irritation and/or dermatitis.

Eye: Dust may cause mechanical irritation. May cause chemical conjunctivitis.

Inhaled: Inhalation of fumes may cause metal fume fever, which is characterized by flu-like symptoms with metallic taste, fever, chills, cough, weakness, chest pain, muscle pain and increased white blood cell count. Can produce delayed pulmonary edema. Effects may be delayed.

Section 12: Ecological Information

Potential Environmental Considerations: Avoid contaminating waterways, drains and sewers.

Data organisation:

Fish key study:

AQUATIC CLASSIFICATION: N; R50-53 Very toxic to aquatic organisms (R50) and may cause long-term adverse effects in the aquatic environment (R53) [N-CLASS]



VETPAK SAFETY DATA SHEET

Crustacea key study

Daphnia magna: Water flea

Endpoint: LC50, Effect: Mortality

Medium: Fresh Water, Duration: 48 H

Exposure: Static, D 98ug/l => 0.098mg/L

Reference Number: 9180

Author(s): Gale, N.L., B.G. Wixson, and M. Erten

Publication Year: 1992

Title: An Evaluation of the Acute Toxicity of Lead, Zinc, and Cadmium in Missouri Ozark Groundwater

Reference Source: Trace Subst.Environ.Health 25:169-183

[IUCLID 2000]

Zn²⁺ LC50 (48 hour Daphnia Magna) = 0.07 mg/L [ECB]

Water solubility ZnO = 1.6 mg/L (HSDB)

According to GHS metal classification guidelines in final GHS document, as the water solubility of ZnO is greater than LC50, the calculated toxicity of ZnO = $0.07 * 81/65 = 0.087$ mg/L = 9.1A (SS 2 May 2003

Algae key study

0.03 mg/l EC50 algae. Lowest toxicity value for zinc according to the NL rapporteur. No evidence. of rapid partitioning from the water column [N-CLASS]

Environmental risk phrases:

Warning: Toxic to aquatic life.

Harmful to terrestrial vertebrates.

Section 13: Disposal Considerations

Disposal Information: Dispose of in accordance with all local, and regional regulations.

Special Precautions for Land Fill or Incineration: Contact a specialist disposal company or the local waste regulator for advice.

Section 14: Transport Information

Land and Sea Transport

UN Number: Not applicable

Shipping Name: ZINC OXIDE

Dangerous Goods Class: Not applicable

Subsidiary Risk: Not applicable.

Pack Group: Not applicable.

Hazchem Code: N/A

Section 15: Regulatory Information

Regulatory status:

Poisons Schedule: N/A

EPG: N/A

AICS Name: ZINC OXIDE (ZnO)

NZ Toxic Substance: N



VETPAK SAFETY DATA SHEET

Section 16: Other Information

Additional Information: National Poisons Centre, Department of Preventative and Social Medicine, University of Otago, P O Box 913, Dunedin, New Zealand. Phone (0800) 764-766 24 hours.

1. The above information has been compiled on the basis of good faith, and our experience from the available technical knowledge and data for this product.
 2. Where health or safety data given discloses a risk to the user or environment, it is the responsibility of the Purchaser to pass on that information to employees or those who may be using the product, ensuring that adequate safety procedures are used.
 3. No responsibility can be accepted for the wrongful or misinterpretation of this data.
-

