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: 13th September 2019

Section 2: Hazards Identification

STATEMENT OF HAZARDOUS NATURE

This product is HAZARDOUS IN THIS FORM AND AT THIS STRENGTH.
Handle correctly and as directed by this SDS.

HAZARD LABELLING WARNING

HAZARD CLASSIFICATION AND STATEMENTS

HSNO	HSNO	GHS	Signal Word	GHS Hazard Statement
9.1A	Aquatic toxicity	Category 1	Warning	H400 Very toxic to aquatic life
9.3C	Harmful to terrestrial vertebrates	None	None	H433 Harmful to terrestrial vertebrates

Prevention Statements:
P273: Avoid release to the environment.

Section 3: Composition / Information on Ingredients:

COMPOSITION

Ingredient	CAS Number	% w/w	HAZARDOUS
Zinc Oxide	1314-13-2	99.5	Yes 9.1A; 9.3C

Section 4: 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.

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

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Section 5: Fire Fighting Measures

Type of Hazard: Not flammable

Fire Hazard Properties: Fire or heat may produce irritating, toxic and/or corrosive fumes, including Carbon dioxide, Carbon monoxide, metal oxides. Contain runoff from fire control or dilution water - Runoff may pollute waterways.

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 must use protective clothing (Section 8). Increase ventilation. Isolate spill 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 local government authorities.

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: 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. Use protective clothing (Section 8)

Storage: Store in original packaging as approved by manufacturer and 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 (On heating) and linseed oil. Protect from direct sunlight and moisture.

Section 8: Exposure Controls / Personal Protection

Workplace Exposure Standards:
NIOSH: TWA = 5mg/m3 (dust/fume)
IDLH ACGIH: TWA = 2mg/m3
STEL = 10mg/m3 (respirable fraction)
OSHA: TWA = 5mg/m3 (fume), 15mg/m3 (total dust), 5mg/m3 (respirable fraction)

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.

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.

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Section 9: Physical and Chemical Properties

Appearance (physical state, colour etc.): White or yellow-white powder

Odour: Odourless

pH: No data

Melting Point/Freezing Point (ºC): 1975 /

Boiling Point (ºC): No data

Flash Point (ºC): Not flammable.

Flammability: Not flammable

Lower Flammability/Explosive Limit: Not flammable

Upper Flammability/Explosive Limit: Not flammable

Auto-ignition Temperature (ºC): Not flammable

Vapour Pressure: No data

Vapour Density: No data

Relative Density: No data

Solubility in Water: Soluble

Specific Gravity: 5.6 (Water = 1)

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/reactive with acids, alkalis, magnesium, aluminium, chlorinated rubber (on heating).

Hazardous decomposition products: Fire or heat may produce irritating, toxic and/or corrosive fumes, including Carbon dioxide, Carbon monoxide, metal oxides.

Hazardous polymerization: Will not occur.

Section 11: Toxicological Information

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

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.

Chronic Effects: Repeated or prolonged inhalation of (Zinc oxide) dust may lead to chronic respiratory irritation.

Carcinogenic Effects: Not a known carcinogen

Mutagenic Effects: No data

Reproductive or developmental effects: No data

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Section 12: Ecological Information

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

Ecotoxicity in water:

- EC50, Daphnia (Ceriodaphnia dubia): 0.413 mg Zn/L (48 h) [US EPA 821-R-02-012; pH: <7].
- IC50, Algae (Pseudokirchneriella subcapitata): 0.136 mg Zn/L (72 h) [OECD 201, Growth Inhibition Test; pH: >7 - 8.5].

Chronic: No Data

Phytotoxicity: No Data

Persistence and Degradability: No Data

Mobility: No Data

Bioaccumulation: No Data

BOD and COD: No Data

Products of Biodegradation: No Data

Toxicity of the Products of Biodegradation: No Data

Section 13: Disposal Considerations

Disposal Information: Dispose of in accordance with all local government regulations.

Section 14: Transport Information

Hazard Class: 9.1A; 9.3C

UN Number: None

Packing Group: None

Hazchem Code:

Land Transport: Check regulations

Sea Transport: Check regulations

Air Transport: Check regulations

Other Information: Handle with care. Stack correctly. Transport upright in the original container with the lid tightly closed. Avoid spillage and any release into the environment.

Section 15: Regulatory Information

HSNO Approval Number: N/A

HSNO Classifications: None
9.1A (Aquatic toxicity)
9.3C (Vertebrate toxicity)

Regulatory status: No special regulatory status.

Section 16: Other Information

Interpretation and Abbreviations
Controls applying to a substance:

- * denotes that changes have been made to these controls, further information on these changes is located in the transfer notice for that substance,
- (R) abbreviation for the term Regulation of the Hazardous Substances regulations

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AICS – Australian Inventory of Chemical Substances
AOX – Absorbable organic halogens.
APF – Assigned Protection Factor.
BOD – Biochemical Oxygen Demand China
COD – Chemical Oxygen Demand
DSL – Canadian Domestic Substances List.
EINECS – European Inventory of Existing Commercial Chemical Substances.
ENCS – Japanese Existing and New Chemical substances.
IARC – International Agency for Research on Cancer.
IDLH – Immediately Dangerous to Life or Health Concentrations.
ISHL – Japanese Industrial Safety and Health Law List of Chemicals.
LOEL – Lowest Observed Effect Level.
LD_{LO} – Lethal Dose Low (the lowest dosage per unit of bodyweight of a substance known to have resulted in fatality in a particular animal species).
MAK – Maximum workplace concentration in the workplace air that generally does not have known adverse effects on the health of the employee nor cause unreasonable annoyance when a person is repeatedly exposed during long periods, usually 8 hours daily, 40hour working week).
NOAA – National Oceanic and Atmospheric Administration.
NOEC – No Observed Effect Concentration.
NTP – National Toxicology Program.
NZIoC – New Zealand Inventory of Chemicals.
OECD HPV – The Organisation for Economic Co-operation and Development High Product Volume Chemicals.
PEL – Permissible exposure limit.
PPE – Personal Protective Equipment.
Prop 65 – California Proposition 65 List of Chemicals.
RTECS – Registry of Toxic Effects of Chemical substances
STEL – Short term exposure limit.
TOC – Total Organic Carbon.
TSCA – US Toxic Substances Control Act Existing Chemicals.
TWA - The time-weighted average airborne concentration over an eight-hour working day, for a five-day working week over an entire working life.
VOC – Volatile Organic Compounds.

Date of Preparation/Review: 13th September 2019

Sources of key data used to compile the datasheet:
Manufacturers SDS
NZ EPA CCID

DISCLAIMER
The information contained in this safety data sheet was obtained from current and reliable sources. This data is supplied without warranty, expressed or implied, regarding its correctness and accuracy. It is the user's responsibility to determine safe conditions for use of this product and to assume liability for loss, injury, damage or expense resulting from improper use of this product.

END OF SDS

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