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SECTION 1 – IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY

Product Identifier

Product Name	Zinc Oxide
Other Names	C.I. Pigment White 4; Chinese white; Zinc monoxide; Zinc Oxide AKTIV; Zinc white
Proper Shipping Name	Zinc Oxide
Other means of Identification	None

Relevant identified uses of the substance or mixture

Relevant identified uses	Dietary supplement, animal feeds

Details of the supplier of the safety data sheet

Registered company name	Vetpak Limited
Address	249 Bruce Berquist Dr, Te Awamutu 3800.
Telephone	(07) 870 2024
Website	www.vetpak.co.nz
Email	sales@vetpak.co.nz

Emergency telephone numbers

Association/ Organisation	New Zealand National Poison information centre
Emergency telephone number	0800 764 766 (07) 870 2024 Vetpak. 8.00am to 5.00pm Monday to Friday except public holidays.
Other emergency telephone numbers	New Zealand emergency services 111

SECTION 2 – HAZARDS IDENTIFICATION

Hazard Classification:

Hazardous according to the criteria of the Globally Harmonised System of classification and labelling of chemicals (GHS)

Label pictograms

GHS label elements	
Signal Word	WARNING

Hazard statements

HSNO	Hazard Code	GHS Category	Hazard Statement
9.1A	H 410	Category 1	Very toxic to aquatic life
9.3C	H 433	None	Harmful to terrestrial vertebrates

Precautionary statements prevention

P103	Read label before use
P273	Avoid release to the environment.

Precautionary statement responses

P391	Collect spillage

Precautionary statement disposal

P501	Disposal should be through a suitably qualified contractor following the EPA guidelines

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Mixtures

CAS Number	% (weight)	Name
1314 – 13 – 2	100 %	Zinc Oxide

SECTION 4 – FIRST AID MEASURES

Description of first aid measures

Eye contact	➢ Immediately flush eyes with running water for several minutes, holding eyelids open and occasionally lifting the upper and lower lids. Remove contact lenses if present and easy to do. ➢ Continue rinsing for at least 15 minutes. ➢ If eye irritation persists, get medical advice/attention.
Skin contact	➢ Wash with plenty of soap and water. ➢ Take off contaminated clothing and wash before reuse. ➢ If skin irritation occurs, get medical advice/attention
Inhalation	➢ Remove victim to fresh air and keep at rest in a position comfortable for breathing until recovered. ➢ Remove contaminated clothing and loosen remaining clothing. ➢ If respiratory symptoms persist, get medical advice/attention.
Ingestion	➢ Rinse mouth then drink plenty of water. ➢ Do not induce vomiting unless directed to do so by medical personnel. Get medical advice/attention if you feel unwell. ➢ If vomiting occurs, lean patient forward or place on left side (head-down position if possible) to maintain open airway and prevent aspiration. Never give anything by mouth to an unconscious person.
Advice to the doctor	The symptoms of metal fume fever do not become manifest until a few hours have passed. Treat symptomatically. No action shall be taken involving any personal risk or without suitable training. Ensure that attending medical personnel are aware of the identity and nature of the product(s) involved, and take precautions to protect themselves

SECTION 5 – FIREFIGHTING MEASURES

Extinguishing media	➢ Use dry chemical, Carbon dioxide (CO2) ➢ Alcohol-resistant foam or water spray for extinction

Special hazards arising from the substrate or mixture

Fire incompatibility	Non-combustible; Material does not burn

Advice for fire fighters

Fire fighting	➢ Wear breathing apparatus plus protective gloves in the event of a fire. ➢ Prevent, by any means available, spillage from entering drains or water courses. Use fire fighting procedures suitable for surrounding area. ➢ DO NOT approach containers suspected to be hot. ➢ Equipment should be thoroughly decontaminated after use.
Fire/explosion hazard	➢ Non-combustible; Material does not burn
Hazardous Products of Combustion	➢ Fire or heat may produce irritating, toxic and/or corrosive fumes, including Carbon dioxide, Carbon monoxide, metal oxides.
Special Fire Fighting Instructions	➢ Contain runoff from fire control or dilution water - Runoff may pollute waterways.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Minor spills	➢ Clean up all spills immediately. ➢ Avoid breathing dusts and contact with skin and eyes. ➢ Control personal contact with the substance, by using protective equipment. ➢ Wipe up. Place in a suitable, labelled container for waste disposal.
Major spills	➢ Wash area and prevent runoff into drains or waterways. If contamination of drains or waterways occurs, advise emergency services.
Clean Up Procedures	➢ Move containers from spill area. ➢ Collect material (sweep or vacuum up) and place it into a suitable, properly labeled container for disposal if appropriate, moisten first or cover with damp absorbent to avoid generating dust
Containment	➢ Stop leak if safe to do so – Prevent entry into waterways, drains or confined areas. ➢ Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.
Environmental Precautionary Measures	➢ Spillages and decontamination runoff should be prevented from entering drains and watercourses. ➢ If environmental contamination has occurred, advise local emergency services.

SECTION 7 – HANDLING AND STORAGE

Precautions for safe handling

Safe Handling	➢ Read label before use ➢ Limit all unnecessary personal contact. ➢ Wear protective clothing when risk of exposure occurs. ➢ Use in a well-ventilated area. ➢ When handling DO NOT eat, drink or smoke. ➢ Always wash hands with soap and water after handling. ➢ Avoid physical damage to containers. Use good occupational work practice. ➢ Observe manufacturer's storage and handling recommendations contained within this SDS.
Storage	➢ Store in a cool, dry and well-ventilated place, out of direct sunlight. ➢ Keep containers closed when not in use - check regularly for spills. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. ➢ Keep away from foodstuffs and incompatible materials. ➢ Use appropriate containment to avoid environmental contamination.

Conditions for safe storage, including any incompatibilities

Suitable container	➢ Keep in the original container or an approved alternative made from a compatible material. ➢ Do not store in unlabelled containers. ➢ Empty containers retain product residue and can be hazardous.

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

General	Zinc oxide (CAS No. 1314-13-2): New Zealand Workplace Exposure Standard for Zinc oxide [Adopted 2020]: TWA = 2 mg/m3 (0.1 mg/m3 respirable) STEL = 5 mg/m3 (0.5 mg/m3 respirable)

Exposure controls

Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. 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 protection	
Eye and face protection	➢ Safety glasses with side shields ➢ Contact lenses may pose a special hazard soft contact lenses may absorb and concentrate materials. ➢ Medical personal should be trained and readily available in the event of chemical exposure; they should begin eye irrigation and remove contact lenses as soon as practicable. Lenses should be removed at the first sign of eye irritation
Skin protection	Wear general protective gloves e.g. light weight rubber gloves
Hand / feet protection	As above for hands; wear appropriate footwear for the environment
Body protection	Overalls or PVC Aprons if available
Other protection	➢ Overalls ➢ PVC Aprons ➢ PVC protective gear ➢ Eyewash facilities ➢ Ensure there is ready access to a safety shower
Work Hygienic Practices	➢ 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. ➢ Appropriate techniques should be used to remove potentially contaminated clothing. ➢ Wash contaminated clothing before reusing.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Solid white to yellow powder	Density	5.6 g/cm3

Odour	Odourless	Specific gravity	5.61(H_2O = 1)
Odour threshold	Not available	Bulk density	Not available
pH	Not available	Viscosity	Not available
Melting point (^oC)	> 800 - 1975 °C	Decomposition Temperature	Not available
Boiling point (^oC)	Not available	Water Solubility	Insoluble
Flash point (^oC)	Not available	Explosive properties	Not available
Vapour pressure	Not available	Oxidising properties	Not available
Flammability	Not flammable	Volatile component (% vol)	Not available

SECTION 10 – STABILITY AND REACTIVITY

General Information	Reacts violently with aluminum powder, magnesium powder and chlorinated rubber (on heating); This generates fire and explosion hazard.
Chemical stability	Stable under normal storage and handling conditions.
Conditions to avoid	Avoid dust formation. Avoid exposure to air/moisture
Incompatible materials	Incompatible/reactive with acids, alkalis, magnesium, aluminum, chlorinated rubber (on heating). Fire or heat may produce irritating, toxic and/or corrosive fumes, including Carbon dioxide, Carbon monoxide, metal oxides
Hazardous Polymerisation	Will not occur

SECTION 11 – TOXICOLOGICAL INFORMATION

General	Acute toxicity (Oral) COMPONENT: Zinc oxide (CAS No. 1314-13-2): - LD50, Rat: >5,000 mg/kg COMPONENT: Zinc oxide (CAS No. 1314-13-2): - LC50, Rat: >5,700 mg/m3 (4 h)
Inhalation	Dust may cause respiratory irritation, coughing, sore throat. Fumes may cause metallic taste, headache, fever, chest tightness, shortness of breath, weakness, muscle pain
Ingestion	No adverse effects expected; Large amounts may cause abdominal pain, diarrhoea, nausea, vomiting.
Skin	Non-irritating; No adverse effects expected.
Eyes	Non-irritating; May cause (mechanical) eye irritation, redness.
Carcinogenicity	Not listed as carcinogenic
Reproductive Toxicity	Not applicable
Mutagenicity	Not suspected of causing genetic defects.
Chronic effects	Repeated or prolonged inhalation of (Zinc oxide) dust may lead to chronic respiratory irritation

SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicity	Aquatic toxicity: COMPONENT: Zinc oxide (CAS No. 1314-13-2): - EC50, Daphnia (Ceriodaphnia dubia): 0.413 mg Zn/L (48 h) pH: 7 - 8.5] IC50, Algae (Pseudokirchneriella subcapitata): 0.136 mg Zn/L (72 h) [OECD 201, Growth Inhibition Test; pH: >7 - 8.5]
Persistence/Degradability	No information available

Bioaccumulation Potential	No information available
Environmental Impact	Very toxic to aquatic life with long lasting effects - Avoid release to the environment.

SECTION 13 – DISPOSAL CONSIDERATIONS

Waste treatment methods

Product / packaging disposal	➢ Dispose of product only by using according to label or at an approved landfill. Recycle where possible. ➢ Do not contaminate bodies of water with chemical or empty container. Refer to the Local council bylaws and Land Waste Management Authority. ➢ Dissolved material in excess water is normally suitable for disposal in storm water system.

SECTION 14 – TRANSPORT INFORMATION

Labels required

Marine Pollutant	Yes
HAZCHEM	Not Hazardous

Land transport (ADG)

UN Number	3077
Packing group	lll
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc oxide)
Environmental hazard	Yes
Transport hazard classes	9 Miscellaneous Dangerous Goods and Articles
Special precautions for user	No data available

Air transport (ICAO-IATA / DGR)

UN Number	3077
Packing group	lll
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc oxide)
Environmental hazard	Yes
Transport hazard classes	9 Miscellaneous Dangerous Goods and Articles
Special precautions for user	No data available

Sea transport (IMDG / GGVSee)

UN Number	3077
Packing group	lll
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc oxide)
Environmental hazard	Yes
Transport hazard classes	9 Miscellaneous Dangerous Goods and Articles
Special precautions for user	No data available
Marine Pollutant	Yes

SECTION 15 – REGULATORY INFORMATION

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

GHS Codes	9.1A, 9.3C
National Inventory	Status - Approved
Australia – AICS	Yes

Europe – EINEC / ELINCS / NLP	Yes
New Zealand – NZIoC	Yes - All ingredients are on the inventory
Environmental Protection Authority (New Zealand)	Hazardous Substances and New Organisms Amendment Act 2015
Approval Code	HSR002503 - Additives Process Chemicals and Raw Materials Subsidiary Hazard Group Standard 2020

SECTION 16 – OTHER INFORMATION

While Vetpak Limited in good faith has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, Vetpak Limited accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

New Zealand National Poison Information Centre: 0800 764 766
New Zealand Emergency Services: 111
Vetpak Limited: +64 7 870 2024

Definitions and abbreviations

PC – TWA	Permissible concentration – time weighted average
PC – STEL	Permissible concentration – short term exposure limit
IARC	International agency for research on cancer
ACGIH	American conference of Government Industrial Hygiene
STEL	Short term exposure limit
TEEL	Temporary emergency exposure limit
IDLH	Immediate dangerous to life or health concentration
OSF	Odour safety factor
NOAEL	No observed adverse effect level
LOAEL	Lowest observed adverse effect level
TLV	Threshold limit value
LOD	Limit of detection
OTV	Odour threshold value
BCF	BioConcentration factors

END OF SDS