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

Product Name: Zinc 50
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: 16th January 2009

Section 2: Hazards Identification

Hazards Classification: Zinc oxide, Monopropylene Glycol, Potassium Sorbate, Sorbitol and the suspending agent appear 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:

<table>
<thead>
<tr>
<th>INGREDIENTS:</th>
<th>CAS Number</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zinc Oxide</td>
<td>1314-13-2</td>
<td>50%</td>
</tr>
<tr>
<td>Flavouring Agent</td>
<td>&lt;0.5%</td>
<td></td>
</tr>
<tr>
<td>Monopropylene Glycol</td>
<td>57-55-6</td>
<td>2.6%</td>
</tr>
<tr>
<td>Potassium Sorbate</td>
<td>24634-61-5</td>
<td>&lt;0.1%</td>
</tr>
<tr>
<td>Seaweed Liquid Concentrate</td>
<td></td>
<td>2.5%</td>
</tr>
<tr>
<td>Sorbitol 70</td>
<td>50-70-4</td>
<td>12.9%</td>
</tr>
<tr>
<td>Suspending Agent</td>
<td>&lt;0.5%</td>
<td></td>
</tr>
<tr>
<td>IVS Wetting Agent</td>
<td>&lt;0.5%</td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>30.4%</td>
</tr>
</tbody>
</table>

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

Fire Hazard Properties: Not flammable.

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. Stop leak if safe to do so. 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.

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

Section 7: Handling and Storage

Handling Practices: Ensure an eye bath and running water 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, and linseed oil.

Packaging: Store in original packaging as approved by manufacturer.

Section 8: Exposure Controls / Personal Protection

Workplace Exposure Standards: N/A.

Engineering Controls: None required.

Subsection 3: Personal Protective Equipment (PPE): 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
Physical State: Liquid.
Appearance: White or pale yellow-white liquid suspension.
Melting Point: N/A
Boiling Point: Not available.
Vapour Pressure: N/A.
Specific Gravity: 1.44 (Water = 1)
Flash Point: N/A.
Flammability Limits: Not flammable.
Solubility in Water: Insoluble

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; 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.
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]
Crustacean key study
Daphnia magna: Water flea
Endpoint: LC50, Effect: Mortality
Medium: Fresh Water, Duration: 48 H
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.

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**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.

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**Section 14: Transport Information**

**UN Number:** Not applicable

**Shipping Name:** Not applicable

**Dangerous Goods Class:** Not applicable

**Subsidiary Risk:** Not applicable.

**Pack Group:** Not applicable.

**Hazchem Code:** N/A

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**Section 15: Regulatory Information**

**Regulatory status:**

**Poisons Schedule:** N/A

**AICS Name:** None

**NZ Toxic Substance:** Not available.

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**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.