Material Safety Data Sheet

Product Name: SELCOTE® ULTRA

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: SELCOTE® ULTRA
Product Code: 04571
Product Type: Nutritional supplement
Company Name: Nufarm NZ
Address: 6 Manu Street, Otahuhu
Auckland 2024  New Zealand
Emergency Tel.: 0800 651 911
Telephone/Fax Number: Tel: 0-9-270 4157
Fax: 0-9-270 4159
Email: www.nufarm.co.nz
Recommended Use: To correct livestock selenium deficiency. Apply to pasture or fodder crops.
Other Information: This SDS describes, to the best of our knowledge, the properties of the concentrated product. The physical properties and some of the assessments do not apply to the properties of the product once it has been diluted for application. Acute health effects of the diluted product are likely to be much less severe.

2. HAZARDS IDENTIFICATION

Hazard Classification: Not classified as Dangerous Goods according to the LTSA New Zealand.
Risk Phrase(s): 6.1D acute toxicant, 6.6B mutagen, 6.9B target organ toxicant, 9.1C aquatic toxicant, 9.2C soil toxicant, 9.3C terrestrial vertebrate toxicant,
TOXICITY: Harmful - may be harmful if swallowed, inhaled or absorbed through the skin. Suspected of causing heritable mutations at high doses. May cause organ damage from repeated oral exposure at high doses.
ECOTOXIC: Harmful to aquatic life with long-lasting effects.
Harmful to the soil environment at high doses.
Harmful to terrestrial vertebrates.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Characterization Information on Composition Ingredients: Solid
Selcote Ultra contains 10g/kg selenium as sodium and barium selenate (90% minimum) and sodium and barium selenite (10% maximum).

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selenium (as sodium and barium selenate)</td>
<td>10g/kg</td>
<td></td>
</tr>
<tr>
<td>Selenium (as sodium and barium selenite)</td>
<td>1g/kg max</td>
<td></td>
</tr>
<tr>
<td>Ingredients determined to be non-hazardous</td>
<td>990g/kg</td>
<td></td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

First Aid Measures: For advice contact the National Poisons Centre 0800 POISON (0800 764 766) or a doctor immediately. Begin artificial respiration if the victim is not breathing. Use mouth-to-nose rather than mouth-to-mouth. Obtain medical attention.
Inhalation: Remove patient to fresh air. Lay down and keep warm and rested. If breathing is shallow or has stopped ensure airway is clear and apply resuscitation. Seek medical assistance immediately.
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Ingestion:
Never give anything by mouth to an unconscious person. If swallowed do NOT induce vomiting. For advice, contact the National Poisons Centre (0800 764 766). Seek medical assistance immediately.

Skin:
Immediately flush body and clothes with large amounts of water. Remove contaminated clothing and footwear. Wash affected areas with soap and water. If a large area is affected seek medical assistance.

Eye:
Flush eyes with plenty of water for 15 minutes holding eyelids open if necessary. Seek medical assistance.

First Aid Facilities:
Facilities storing or utilizing this material should be equipped with an eyewash facility and safety shower.

Advice to Doctor:
Treat symptomatically.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media:
Carbon dioxide to exclude air.

Hazards from Combustion Products:
May emit toxic fumes of selenium dioxide if involved in fires or exposed to extreme heat.

Special Protective Equipment for firefighters:
Full protective clothing and self-contained breathing apparatus.

Specific Methods:
Keep up wind. Do not allow washings to reach sewage or effluent systems.

6. ACCIDENTAL RELEASE MEASURES

Spills & Disposal:
Wear protective clothing. Clear area of unprotected personnel. Sweep up solids without generating dust. If spill does enter waterways contact the local authority. Collect in an appropriate sealable container for disposal in an approved landfill.

Personal Protection:
For appropriate personal protective equipment (PPE), refer Section 8.

Environmental Precautions:
Prevent from entering drains, waterways or sewers.

7. HANDLING AND STORAGE

Precautions for Safe Handling:
Avoid skin and eye contact and inhalation of dust. APPROVED HANDLER: Not applicable. TRACKING: Is not required. RECORD KEEPING: Not applicable.

Conditions for Safe Storage:
Keep out of reach of children. Store in original container tightly closed and in a locked, dry, cool area away from foodstuffs. Storage must be in accordance with NZS 8409 Management of Agrichemicals. Stores containing 1,000kg of Selcote Ultra are subject to signage, and more than 1,000kg require emergency response plans.

Other Information:
Always read the label and any attached leaflet before use. Aggregate Storage Volume Thresholds:
When stored with substances of the same hazard classification the aggregate quantity must be considered. For full details refer to the current NZS8409 Management of Agrichemicals and the HSNO Regulations.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

National Exposure Standards:
No exposure limits (WES, TEL or EEL's) have been specifically assigned for this product. WES TWA for selenium and compounds, as Se = 0.1 mg/m³

Engineering Controls:
Ensure ventilation is adequate and that air concentrations of components are controlled below quoted Workplace Exposure Standards. Avoid generating and inhaling dusts. Use with local exhaust ventilation or while wearing a dust mask. Keep containers closed when not in use.

Personal Protective Equipment:
When handling the product wear safety goggles, impervious gloves, cotton overalls buttoned to the neck and wrist, and boots.
**Hygiene Measures**

Do not eat, drink or smoke while using. Remove protective clothing and wash hands and face thoroughly before meals and after work. Wash protective clothing daily after work.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>Solid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Yellow-green granules</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Sparingly soluble in water</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.00</td>
</tr>
<tr>
<td>Volatile Component</td>
<td>Nil</td>
</tr>
<tr>
<td>Other Information</td>
<td>(GR) Granule</td>
</tr>
</tbody>
</table>

### 10. STABILITY AND REACTIVITY

**Chemical Stability**

Stable at room temperature. Incompatible with strong oxidizing agents, sparks and open flames.

**Hazardous Polymerization**

Hazardous polymerisation will not occur.

### 11. TOXICOLOGICAL INFORMATION

**Toxicology Information**

No specific toxicological data is available for this product. Data below is for constituents.

**Health Hazard**

No adverse health effects are expected if the product is handled in accordance with this Safety Data Sheet and the product label.

**Inhalation**

Inhalation of dust may result in respiratory irritation. Effects may include those described for 'swallowing'. Can cause possible allergic reactions, producing asthma like symptoms.

**Ingestion**

Swallowing may result in nausea, vomiting, diarrhoea and abdominal pain. Large amounts may cause muscle spasms, coma and death from respiratory failure.

**Skin**

Contact with skin may result in irritation.

**Eye**

May be an eye irritant.

**Chronic Effects**

Repeated or prolonged exposure to selenite compounds may cause bronchial irritation, gastro-intestinal hypermotility resulting in diarrhoea, loss of weight and liver changes.

**Carcinogenicity**

Objective reviewers of literature have concluded that selenium is not carcinogenic, albeit it may even play a protective role against carcinogenicity in small doses. IARC have classified Selenium and Selenium compounds as Group 3 - not classifiable as to their carcinogenicity to humans.

**Acute Toxicity - Oral**

<table>
<thead>
<tr>
<th>Species</th>
<th>LD50 (rat)</th>
<th>LD50 (rabbit)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium selenate</td>
<td>1.6 mg/kg</td>
<td>2.19 mg/kg for sodium selenite</td>
</tr>
<tr>
<td>Barium selenate</td>
<td>7 mg/kg</td>
<td></td>
</tr>
</tbody>
</table>

**Subchronic/Chronic Toxicity**

Rats fed a dietary level of 100ppm, ate little food and all died in 8-16 days. Those receiving 50ppm died in 10-97 days. A dietary level of 15ppm was tolerated for 72 days or more but food intake was about half of normal. All rats survived 7.5ppm (0.37mg/kg) for 6 months, and their growth was normal.

**Human Effects**

A woman who had ingested 53mg/kg of sodium selenate experienced gastrointestinal hypermotility with diarrhoea. Liver function tests were abnormal.

### 12. ECOLOGICAL INFORMATION

**Persistence / Degradability**

Not readily degradable (sodium selenate)

**Bioaccumulative Potential**

Daphnia BCF value = 3650 for sodium selenate

**Basis for Assessment**

Ecotoxicological data have not been determined specifically for this product. Data below is for the active ingredient unless otherwise stated.

**Acute Toxicity - Fish**

LC50 (96hr) for Fathead minnow is 0.69 mg/l for sodium selenate
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Infosafe No™ 3NUG7   Issue Date: November 2010   ISSUED by NUFARMNZ

Product Name SELCOTE® ULTRA

| Acute Toxicity - Daphnia | LC50 (96h) Daphnia magna 0.58mg/L for sodium selenate |
| Acute Toxicity - Algae | EC50 (96h) for green algae 0.2 mg/l for sodium selenate |

13. DISPOSAL CONSIDERATIONS

Product Disposal: Dispose of product only by using according to the label, or at an approved landfill.

Container Disposal: Ensure container is completely empty. Burn in an appropriate incinerator if circumstances, such as wind direction, permit. Otherwise crush and bury in an appropriate landfill.

14. TRANSPORT INFORMATION

Transport Information: It is good practice not to transport agricultural chemical products with food, food related materials and animal feedstuffs.

Other Information: Do not carry this product on a passenger service vehicle.

15. REGULATORY INFORMATION

National and or International Regulatory Information: This product does not require registration under the ACVM Act. Approved pursuant to the HSNO Act 1996, Approval Code HSR002521

See www.ermanz.govt.nz for approval controls

Packaging & Labelling: HARMFUL - keep out of reach of children

Hazard Rating Systems: NFPA/HMIS: 2-0-1

16. OTHER INFORMATION

Contact Person/Point: IN AN EMERGENCY, DIAL 111 - FIRE OR POLICE

24Hr Tollfree Emergency No: 0800 651 911

24Hr Emergency No: National Poisons Centre Phone: 0800 764 766

The SDS was reviewed. Minor changes were made to the information.

Revisions Highlighted: Supersedes SDS issued February 2009

...End Of MSDS...