

## MIZAR GRANUFLO®

Date of Issue: 19 December 2005

### 1. SUBSTANCE/PREPARATION AND COMPANY IDENTIFICATION

**Chemical name of active ingredient(s):** Ziram

**Recommended use:** Fungicide

**Supplier:** Elliott Technologies Limited  
45 Kitchener Road  
Pukekohe  
Phone 0800 100 325

**Emergency telephone number:** 0800 Poison (0800 764 766) 24 Hours

### 2. HAZARDS IDENTIFICATION

**Hazard Classification:** Toxic - 6.1D, 6.4A, 6.5B, 6.9B,  
Ecotoxic - 9.1A, 9.3C  
Approved Handler Applies

**Required identification Details:** HARMFUL  
ECOTOXIC

May be harmful if swallowed, inhaled or absorbed through skin.

May cause eye irritation

May cause skin irritation.

Repeated exposure at high doses may cause harm to the liver, central nervous system, and thyroid.

Very toxic to aquatic organisms.

Harmful to terrestrial vertebrates.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Substance/preparation Information on hazardous ingredients

Common name	CAS No	%
Ingredient: Ziram	137-30-4	75
Inert Ingredients:	Non-hazardous	25

### 4. FIRST-AID MEASURES

#### Description of necessary first aid measures:

#### Effects and symptoms

#### First-aid measures

Symptoms of over exposure include dizziness, confusion, drowsiness, lethargy, ataxia, headaches, or coma; abdominal pain, nausea, vomiting, diarrhoea; muscle weakness and ascending paralysis; respiratory paralysis; cough; skin rash and eye irritation. May also induce alcohol

intolerance.

<b>Inhalation:</b>	Remove to fresh air. Apply artificial respiration if necessary. Get medical help if breathing difficulty persists.
<b>Ingestion:</b>	Give a glass or two of water. Get medical help. Never give anything by mouth to an unconscious person.
<b>Skin contact:</b>	May cause skin irritation. Remove contaminated clothing. Wash with soap and water. If irritation persists see a doctor.
<b>Eye contact:</b>	May cause eye irritation. Immediately flush with water for 15 minutes. If irritation persists see a doctor.
<b>Notes to a physician:</b>	There is no specific antidote. Treatment should be symptomatic after decontamination. Possible mucous damage may contraindicate gastric lavage. After poisoning with ziram, alcohol should be avoided for at least 10 days.

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## 5. FIRE-FIGHTING MEASURES

<b>HAZCHEM Code:</b>	2Z
<b>Extinguishing media :</b>	Foam, water spray, Carbon Dioxide, dry chemical.
<b>Hazardous thermal (de)composition products:</b>	Heating to decomposition generates oxides of carbon, nitrogen and sulphur.
<b>Protection of fire-fighters:</b>	Wear full emergency equipment and self-contained breathing apparatus. Fight fire from upwind.

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## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions:</b>	Wear long sleeved shirt, long pants, waterproof gloves and safety goggles or face shield. Do not eat, drink or smoke when using. Wash hands and face before meals and after work.
<b>Environmental precautions:</b>	Contain spill, do not allow material to enter sewers or bodies of water. Keep unprotected persons and animals out of the area.
<b>Methods for cleaning up:</b>	Keep dry or when wet contain run off. Shovel or sweep up dry material and bury in an approved landfill. If in a liquid state, soak up with saw dust or other absorbent material and dispose of in an approved land fill.

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## 7. HANDLING AND STORAGE

<b>Handling:</b>	Keep dry and out of reach of children.
<b>Storage:</b>	Store in original container tightly closed in a locked, dry, well

ventilated place away from feed, seeds and foodstuffs. Keep away from sparks, heat and flames. Keep out of reach of children or animals.

**Packaging materials:** Multiwall paper bags, 10 kg

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Workplace Exposure Guidelines

**Workplace exposure standards:** Not set

**Exposure Standards outside:** Not set

**The workplace:**

### Engineering measures

**Exposure control measures:** Ventilate all transport vehicles prior to unloading. Ensure stores are adequately ventilated.

### Personal Protective Equipment

**Detail specifications for equipment:**

**Respiratory system:** Mizar Granuflo is a Granular formulation that overcomes the normal hazards associated with dust. A full face shield when mixing is adequate protection in normal use. When dust is generated, a properly fitted and approved TC-21C dust/mist filtering respirator or any approved N,R, P, or SHE filter is required.

**Skin and body:** Long sleeved shirt and pants worn outside boots.

**Hands:** Protect hands with waterproof gloves made from materials such as polyethylene or polyvinyl chloride.

**Eyes:** Full face shield when mixing and applying.

**General hygiene:** Wash hands and exposed skin immediately after use. Do not smoke, eat or drink when using.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Water dispersible granule

**Colour:** Creamy white to light brown granule

**Odour:** Odourless

**pH:** 5.3 (4% aqueous suspension)

**Vapour Pressure:** Not applicable – Very low

**Vapour Density:** Not applicable

**Boiling Point:** Not applicable

**Freezing/melting point:** Not available

**Solubility:** Disperses in water. Ziram is practically insoluble.

**Specific gravity or density:** Not applicable

**Information for flammable material** Not applicable

**including:**

- **Lower and upper flammability limits**
- **Flashpoint (state test)**

## Method

<b>Auto – ignition Temperature:</b>	Not applicable
<b>Octanol/water partition coefficient:</b>	Log P <sub>ow</sub> = 1.23 at 20°C
<b>Explosion properties:</b>	Not explosive
<b>Oxidation properties:</b>	Not an oxidizer

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## 10. STABILITY AND REACTIVITY

<b>Stability:</b>	Stable under normal conditions of use.
<b>Conditions to avoid:</b>	Excessive Heat. Prevent dust formation.
<b>Materials to avoid:</b>	Ziram decomposes on heating and in contact with acids. It is incompatible with iron, lime, sulphur, copper and mercury.
<b>Hazardous decomposition Products:</b>	Heating to decomposition generates oxides of carbon, nitrogen and sulphur. Is Carbon disulphide and oxide???
<b>Hazardous polymerization:</b>	None
<b>Specific Data:</b>	Not applicable
<b>Hazardous reactions :</b>	None

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## 11. TOXICOLOGICAL INFORMATION

<b>Acute toxicity – Oral :</b>	Acute Oral LD50 =2700 mg/kg (a.i) (Rat)
<b>Acute toxicity - Dermal :</b>	Acute Dermal LD50 > 2,000 mg/kg (a.i) (Rat)
<b>Acute toxicity – Inhalation:</b>	LC50 =0.13 mg/litre,4hr (a.i) (Rat). Respirable ziram is highly toxic by inhalation. However, this is a granular solid that will not form respirable dust under normal handling conditions.
<b>Skin irritation :</b>	Not irritating (Rabbit). Irritating in Humans.
<b>Eye irritation:</b>	Highly irritating to eyes and mucous membranes. (Rabbit)
<b>Sensitization :</b>	Sensitising (Guinea Pig)
<b>Chronic toxicity Carcinogenicity:</b>	This product is not listed as a carcinogen by NTP, IARC or OSHA, however, ziram has been associated with increased cancer rates in some animal studies. IARC has classified ziram as Group 3 – not classifiable as to carcinogenicity in humans and inadequate evidence of carcinogenicity in animal studies. NTP carcinogenicity bioassay (feed) showed clear evidence of carcinogenicity in mice and rats.
<b>Mutagenicity:</b>	Ziram is mutagenic in some test systems.
<b>Reproduction toxicity:</b>	Ziram has been found to cause adverse reproductive effects and teratogenic effects in some studies with laboratory animals
<b>Other information :</b>	Overexposure to high doses of ziram may cause dermatitis, metabolic disorders, blood abnormalities and kidney and liver damage. An antabuse-like reaction with flushing, sweating, headache, weakness and hypertension may occur when ethyl alcohol (alcoholic beverages) is ingested following exposure to this

material.

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## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

Very toxic to aquatic organisms. in aquatic environment, toxic to fish. Do not contaminate bodies of water with chemical or empty container. Harmful to terrestrial vertebrates, low toxicity to birds.

**Fish**  
**Daphnia magna**  
**Algae**  
**Bees**  
**Mobility**      **Soil**

LC 50 = 1.7 mg/litre, 96hr (Rainbow trout),  
LC50 = 0.048mg/litre ,48hr (Daphnia)

Not toxic to bees

Not mobile.

Adsorbed on organic matter and clay.

Kd = 2.2 - 18 mL/g

Koc = 362 - 877 mL/g

### Water

Toxic to aquatic organisms. Keep out of waterways

### Persistence/degradability Soil

Low to moderate persistence in soil with half life of 30 days. N-octanol/water partition coefficient (log Pow = 1.086). Material has low solubility-low potential for bioaccumulation. Not mobile.

Adsorbed on organic matter and clay.

Kd = 2.2 - 18 mL/g

Koc = 362 - 877 mL/g

### Bioaccumulative potential :

Not bioaccumulative

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## 13. DISPOSAL CONSIDERATIONS

### Methods of disposal :

Ensure that any unwanted material is used according to label directions. Container disposal: Ensure that container is completely empty. Burn if circumstances, especially wind direction permit, otherwise bury in landfill.

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## 14. TRANSPORT INFORMATION - International transport regulations

### UN number:

U.N No: 3077

### Class or Division:

9

### Classification Code: EPG

47 Dangerous Goods – initial Emergency Response Guide.

### Packing Group:

III

### Marine Pollutant:

No

### Proper shipping name :

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S  
(Contains 75% ziram)

### INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA):

N/A

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## 15. REGULATORY INFORMATION

### ACVM Registered Number:

P4176

## 16. OTHER INFORMATION

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**Additional information:**

**Original Issue Date:** 19 December 2005

**Revision Date:** N/A

**Replaces:** N/A

**Disclaimer EXCLUSION OF LIABILITY: PLEASE READ**

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