Section 1 - Identification of The Material and Supplier

FREEZONE PUBLIC HEALTH
P.O. BOX 591
SANDGATE 4017 QLD
PHONE: 07 3869 4436
FAX: 07 3869 4433
MOBILE: 0412 200 252

Website: www.freezone.net.au

Product Name: Freezone Fenitrothion Insecticide
Recommended Use: Freezone Fenitrothion Insecticide is an insecticide for the control of locusts and grasshoppers.
APVMA Number: 67186/55411

Section 2 - Hazards Identification

Hazard Classification: Hazardous according to the criteria of the Australian Safety and Compensation Council (ASCC).

Risk Phrases: Xi:
R36 – Irritating to eyes.
R38 – Irritating to skin.
Xn:
R22 – Harmful if swallowed.
N:
R50 – Very toxic to aquatic organisms.
R53 – May cause long-term adverse effects in the aquatic environment.
R56 – Toxic to soil organisms.
R57 – Toxic to bees.

S24 – Avoid contact with skin.
S25 – Avoid contact with eyes.

SUSDP Classification (Poison Scheduling):
S6

ADG Classification: Classified as a Dangerous Good (under the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code).

Correct Shipping Name: ORGANOPHOSPHORUS PESTICIDE, LIQUID,TOXIC (fenitrothion mixture).

Dangerous Goods Class: 6.1
UN Number: 3018
Hazchem Code: 2X
Packaging Group: III
SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>CAS number</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fenitrothion</td>
<td>122-14-5</td>
<td>&gt; 60%</td>
</tr>
<tr>
<td>Iso-butanol</td>
<td>78-83-1</td>
<td>&lt;10%</td>
</tr>
<tr>
<td>Aromatic hydrocarbon</td>
<td>64742-94-5</td>
<td>&lt;10%</td>
</tr>
<tr>
<td>Other ingredients determined as non hazardous</td>
<td>to 100%</td>
<td></td>
</tr>
</tbody>
</table>

SECTION 4: FIRST AID MEASURES

**General:** In case of accident or if you feel unwell, seek medical advice immediately (Show label where possible).

**Swallowed:** If swallowed, contact a Poisons Information Centre or a doctor at once. If swallowed, activated charcoal may be advised. Give atropine if instructed.

**Skin contact:** If splashed on skin, contact a Poisons Information Centre or a doctor at once. Remove contaminated clothing and wash skin thoroughly with soap and water. Launder contaminated clothing before re-use

**Eye contact:** If in eyes, hold eyes open and flood with water for at least 15 minutes and contact a Poisons Information Centre or a doctor at once.

**Inhalation:** If inhaled, remove from contaminated area to fresh air. Contact a Poisons Information Centre or a doctor at once.

**Note to physician:** Apply basic aid and decontamination procedures. Treat symptomatically.

SECTION 5: FIRE FIGHTING MEASURES

**Flashpoint:** > 70°C
**Flammable limits:** NDA
**Auto-ignition temperature:** 315°C (Active Ingredient)

**Suitable Extinguishing Media:**
- Small fire: Use dry chemical, carbon dioxide or water spray.
- Large fire: Use water spray, fog or foam – Do not use water jets.

**Hazards from Combustion Products:**
This product is combustible. Normal combustion forms carbon dioxide and water vapour, and may produce oxides of sulphur, nitrogen and phosphorus. Incomplete combustion can produce carbon monoxide.
Prevent electrostatic discharge and No Smoking. Above the flashpoint an explosive mixture can be formed.

**Precautions for Fire Fighting and Special Protective Equipment:**
In case of fire, the evolution of dangerous gases is possible. Ensure respiratory equipment is available. Evacuate immediate area. Advise Fire Brigade of nature of hazard. Wear full protective equipment, including breathing apparatus. Remove drums from site of fire, if possible, as overheating may cause drums to explode. Surrounding containers should be cooled using a fine water spray. All run-off must be contained.

**Hazchem Code:** 2X

SECTION 6: ACCIDENTAL RELEASE MEASURES

**METHODS AND MATERIALS FOR CONTAINMENT AND CLEAN UP PROCEDURES**

Poisons Information Centre: 13 1126 from anywhere in Australia, (0800 764 766 in New Zealand)
SPILLS
Stop the source of the spill if it is safe to do so. Contain the spill to prevent further contamination of the soil, surface water, or ground water. Wear personal protective equipment as specified in Section 8. Do not allow material to enter sewers or bodies of water.
Small Spills:
(Liquid spill)
Apply absorbent inert material such as soil, dry sand or vermiculite to the spill area. Sweep up material when absorption is complete and contain in a refuse vessel for disposal. If necessary, wash the spill area with an alkali detergent and water and absorb and contain as above.
On completion of clean up remove and wash all contaminated clothing and equipment with detergent and water. Any heavily contaminated clothing should be placed in a plastic garbage bag and placed in a sealable drum. Do not smoke, eat or drink during the clean-up operation.
Large Spills:
(Liquid Spill)
Place leaking containers into salvage drums. Apply absorbent inert material such as soil, dry sand or vermiculite to the spill area. Form a barricade around spill and in front of drains or waterways in spill vicinity, using soil or other non reactive material. Sweep up material and contain in a refuse vessel for disposal.
Contact emergency services as required.
On completion of clean up remove and wash all contaminated clothing and equipment with detergent and water. Any heavily contaminated clothing should be placed in a plastic garbage bag and placed in a sealable drum. Do not smoke, eat or drink during the clean-up operation.
Disposal: Contaminated material must be disposed of in accordance with all State and/or Local regulations.

SECTION 7: HANDLING AND STORAGE

Precautions for safe Handling:
DO NOT USE OR STORE near flame, sparks or hot surfaces. Use only in well ventilated area. Keep container closed. Do not mix with water (except for normal preparation). Keep out of reach of children, unauthorised persons and animals. After handling and before eating, drinking or smoking, wash hands, arms and face with soap and water. For personal protection, see Section 8.

Conditions for safe Storage:
Keep out of reach of children, unauthorised persons and animals. Store in the closed, original container in a cool, well ventilated-area. Do not store for prolonged periods in direct sunlight. Keep away from heat. Do not store near food, feedstuffs, fertiliser or seed. Store at ambient temperatures. Ensure containers are correctly labelled and securely sealed. Classified as a dangerous substance for transport purposes.

Fire and Explosion Prevention:
This product is combustible. Prevent electrostatic discharge and No Smoking. Above the flashpoint an explosive mixture can be formed.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

NATIONAL EXPOSURE STANDARDS
Australian Safety and Compensation Council (ASCC) exposure standards have not been assigned for the active ingredient or anionic surfactant.
Exposure Standards for surfactant constituent:
iso-butanol
Exposure Limit: 152 mg/m³ TWA
n/a STEL

Exposure Standards for aromatic hydrocarbon:
Exposure Limit: 100mg/m³ TWA
n/a STEL

BIOLOGICAL LIMIT VALUES
Production workers and agricultural workers handling this product regularly should be monitored for the effects of organophosphate pesticides. A baseline level should be established prior to any potential exposure. See Guidelines for Health Surveillance [NOHSC: 7039 (1995)].

ENGINEERING CONTROLS
No engineering control measures are allocated to the use of this product, however always use in a well ventilated area. Do not inhale mist.

PERSONAL PROTECTIVE EQUIPMENT
Product is poisonous if absorbed by skin contact, inhaled or swallowed. Repeated minor exposure may have a cumulative poisoning effect. Avoid contact with eyes and skin. Do not inhale spray mist.
When opening the container, preparing spray and using the prepared spray, wear cotton overalls buttoned to the neck and wrist and washable hat, elbow-length PVC gloves and face shield. When using in enclosed areas, wear goggles and half-face piece respirator with combined dust and gas cartridge. If product on skin, immediately wash area with soap and water. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day’s use, wash contaminated clothing, gloves, face shield, goggles and respirator and if rubber wash with detergent and water.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Vapour Pressure:
ACTIVE INGREDIENT SPECIFIC: 1.37 x 10⁻⁴ mm Hg at 20°C
Viscosity: 37.6 cP at 22°C
Ignition Temperature: 315°C
Appearance:
PRODUCT SPECIFIC: Brown clear liquid.
Odour: Slightly characteristic odour
pH: 3.0 – 7.0
Vapour Density: NA
Boiling Point: NA
Melting Point: NA
Solubility in water: Emulsifiable in water.
Density: 1.28 – 1.30 g/mL
Viscosity: NDA
Flashpoint: >70°C
Explosive Limits: NDA
Ignition Temperature: NDA
SECTION 10: STABILITY AND REACTIVITY

Chemical Stability: Stable for 3 years after manufacturing under recommended storage and handling conditions (See Section 7). Unstable in light, particularly UV light.

Conditions to Avoid: Avoid high temperatures and direct sunlight. Isolate from sources of heat, naked flames or sparks.

Incompatible Materials: Alkaline materials and oxidizing agents.

Hazardous Decomposition Products: Emits toxic and irritating fumes under fire conditions (See also Section 5).

Hazardous Reactions: NDA

SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE HEALTH EFFECTS (Formulated Product)

Toxicology

Swallowed: MODERATELY TOXIC.

(LD50 (male rat) = 420 mg/kg and LD50 (female rat) = 910 mg/kg)

Accidental ingestion of small amounts may be harmful.

Skin: MODERATELY TOXIC.

(LD50 (male rat) = 1110 mg/kg and LD50 (female rat) >1500 mg/kg)

Contact with skin may be harmful.

ACUTE HEALTH EFFECTS (Active Ingredient)

Inhalation: MODERATELY TOXIC.

(LC50 rat (4 hour) > 2.21 mg/L of air)

Inhalation of vapour may be harmful.

Irritation (Formulated Product)

Skin: NON-IRRITANT.

Eye: IRRITANT.

Irritation (Active Ingredient)

Sensitisation

Skin: NOT A SKIN SENSITISER.

CHRONIC HEALTH EFFECTS (Active Ingredient)

In long-term dietary chronic studies in rat and mouse, no evidence was seen for treatment-related carcinogenicity.

OTHER TOXICOLOGICAL INFORMATION (Active Ingredient)

Not mutagenic, embryotoxic or teratogenic.

Like other organophosphate pesticides, fenitrothion acts by inhibiting the activity of the enzyme acetylcholinesterase, which is important in the conduction of impulses to nerves and muscles. Fenitrothion is oxidized in animals, insects and plants to derivatives that are more potent inhibitors of cholinesterase than the parent compound. In mammals, both the parent compound and its derivatives are predominantly metabolised in the liver and then mostly excreted within a 24-hour period. However, in some cases, suppression of metabolism of the compound during its repeated administration can lead to an extended persistence in the body. In addition, ultraviolet radiation induced breakdown products can be more toxic to mice than the parent compound.

SECTION 12: ECOLOGICAL INFORMATION

DO NOT contaminate streams, rivers or waterways with the chemical or used containers.

ECOTOXICITY(Active Ingredient)

Toxic to fish: LC50 Rainbow trout (96 hour) = 1.3 mg/L

LC50 Bluegill sunfish (96 hour) = 2.5 mg/L
Highly toxic to aquatic invertebrates:
EC50 *Daphnia magna* (48 hour) = 8.6 μg/L
Toxic to algae: EC50 *Selenastrum capricornutum* (96 hour) = 1.3 mg/L
Low toxicity to toxic to birds: Acute Oral LD50 Quail = 23.6 mg/kg.
Acute Oral LD50 Ringneck pheasant = 34.5 mg/kg.
Acute Oral LD50 Mallard duck = 1190 mg/kg.
Highly toxic to bees.
Highly toxic to earthworms.

**ENVIRONMENTAL FATE (Active Ingredient)**
(half life and mobility)
Fenitrothion and metabolites adsorb moderately strongly to soils and do not leach significantly. Vapour transport is likely to be significant in view of the moderate vapour pressure, although volatilisation will be limited to a short period after application as fenitrothion does not persist on vegetation or soil surfaces. Fenitrothion appears relatively stable in air. Fenitrothion degrades through microbial metabolism with typical half-lives of a few weeks under aerobic conditions. Residues entering water dissipate through photolysis and microbial metabolism with half-lives typically less than a day, as well as through uptake into biota to moderate levels, accompanied by metabolism.

**SECTION 13: DISPOSAL CONSIDERATIONS**

**Product:** This material must be disposed of as a hazardous waste. Disposal should be in accordance with local, national or state regulations.

**Contaminated Packaging:**
Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush or puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.

**SECTION 14: TRANSPORT INFORMATION**

**Rail / Road (ADR / RID)** Classified as dangerous in the meaning of railroad transport regulations.

*Proper Shipping Name* ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC.
(fenitrothion mixture)

**Class:** 6.1

**Sub Risk Class** Not applicable

**UN Number** 3018

**Hazchem Code** 2X

**Packing Group** III

**Sea (IMDG Code)** Classified as dangerous in the meaning of sea transport regulations.

*Proper Shipping Name* ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC.
(fenitrothion mixture)

**Class:** 6.1

**Sub Risk Class** Not applicable

**UN Number** 3018

**Hazchem Code** 2X

**Packing Group** III

**Air (ICAO / IATA)** Classified as dangerous in the meaning of air transport regulations.

Poisons Information Centre: 13 1126 from anywhere in Australia, (0800 764 766 in New Zealand)
**Proper Shipping Name** ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC.  
(fenitrothion mixture)  
**Class:** 6.1  
**Sub Risk Class** Not applicable  
**UN Number** 3018  
**Hazchem Code** 2X  
**Packing Group** III

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### SECTION 15: REGULATORY INFORMATION

**Registration Status:** This product is currently registered under the Australian Pesticides and Veterinary Medicines Authority (APVMA) with the following approval number 0775/0401.

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### SECTION 16: OTHER INFORMATION

**Abbreviations:**  
NA Not Applicable  
NDA No Data Available  
**Revision Date:** 28 January 2010  
**Revision Number:** 7

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THE INFORMATION GIVEN IN THIS MSDS IS BASED ON DATA AVAILABLE AS OF THE REVISION DATE GIVEN HEREIN, AND BELIEVED TO BE CORRECT. EACH USER SHOULD READ THIS MSDS AND CONSIDER THE INFORMATION IN THE CONTEXT OF HOW THE PRODUCT WILL BE HANDLED AND USED IN THE WORKPLACE, INCLUDING IN CONJUNCTION WITH OTHER PRODUCTS. IF CLARIFICATION OR FURTHER INFORMATION IS NEEDED TO ENSURE THAT AN APPROPRIATE RISK ASSESSMENT CAN BE MADE, THE USER SHOULD CONTACT THIS COMPANY.

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Please read all labels carefully before using product