SAFETY DATA SHEET

FREEZONE SMART GRAIN DUAL INSECTICIDE APVMA Approval No. 67567

SECTION 1. IDENTIFICATION

Product name:	FREEZONE SMART GRAIN DUAL INSECTICIDE APVMA Approval No. 67567
Recommended Use:	Agricultural insecticide for use as described on the product label.
Restrictions on Use:	None specified.
Supplier of SDS:	Freezone Public Health Pty Ltd
Supplier Address:	18 Gilpin Street
	Shorncliffe QLD 4017
Supplier Phone:	07 3869 4436
Supplier Fax:	07 3869 4433
Supplier Email:	info@freezone.net.au

Emergency Telephone Number: Craig Jephcott 0412 200 252

Poisons Information Centre 13 11 26

SECTION 2. HAZARD(S) IDENTIFICATION

Classification of the substance or mixture

Acute toxicity (Category 4)

Skin irritation (Category 2)

Serious eye damage / eye irritation (Category 2A)

Specific target organ toxicity - single exposure (Category 3)

Specific target organ toxicity - repeated exposure (Category 1)

Aspiration Toxicity (Category 1)

Flammable liquids (Category 4)

Acute aquatic toxicity (not classified)

Chronic aquatic toxicity (not classified)

Signal Word Danger

Label Elements and Precautionary Statements

Hazard Pictograms:

Exclamation Mark

Health Hazard

Environment

Hazard Statements:

Harmful if swallowed.

Harmful in contact with skin.

Harmful if inhaled

May cause long lasting harmful effects to aquatic life.

Causes skin irritation.

Causes serious eye irritation.

Causes damage to organs through prolonged or repeated exposure.

May cause respiratory irritation.

May cause drowsiness or dizziness.

May be fatal if swallowed and enters airways.

Combustible liquid.

Precautionary Statements:

General

If medical advice is needed, have product container or label at hand.

Keep out of reach of children.

Read label before use.

Prevention

Wear protective gloves, eye and face protection.

Do not eat, drink or smoke when using this product.

Do not breathe product fumes.

Use only outdoors or in a well-ventilated area.

Keep away from flames and hot surfaces. – No smoking.

Wash hands thoroughly after handling.

Response

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

Rinse mouth

Do NOT induce vomiting.

IF ON SKIN: Wash with plenty of soap and water.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

Call a POISON CENTRE or doctor/physician if you feel unwell.

Wash contaminated clothing before reuse.

If skin irritation occurs: Get medical advice/attention.

In case of fire: Use carbon dioxide for extinction.

Disposal

Dispose of contents/ container according to product label or in accordance with local Regulations

Storage

Store in a well-ventilated place. Keep container tightly closed.

Keep cool. Protect from sunlight.

Store locked up.

SECTION 3. COMPOSITION AND INFORMATION ON INGREDIENTS

S-METHOPRENE contains 60g/L CAS number: 65733-16-6 EC number: 613-834-0	**Classification** Acute toxicity (Category 4) Skin irritation (Category 2) Serious eye damage / eye irritation (Category 2A) Specific target organ toxicity - single exposure (Category 3) Acute aquatic toxicity (not classified) Chronic aquatic toxicity (not classified)

FENITROTHION contains 600g/L CAS number: 122-14-5 EC number: 204-524-2	**Classification** Acute toxicity (Category 4) Serious eye damage / eye irritation (Category 2A) Specific target organ toxicity – repeated exposure (Category 1) Acute aquatic toxicity (not classified)

	Chronic aquatic toxicity (not classified)

Non-hazardous ingredients contains up to 100% CAS number: secret EC number: secret	**Classification** n/a

Full text for all hazard statements is contained in Section 16.

SECTION 4. FIRST AID MEASURES

First aid measures

General information	You should call The Poisons Information Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 13 1126 from anywhere in Australia (0800 764 766 in New Zealand) and is available at all times. Have this SDS with you when you call. If swallowed, splashed on skin or inhaled, contact a Poisons Information Centre or a doctor at once. Remove any contaminated clothing and wash skin thoroughly. Hospital treatment may be necessary.
Inhalation	If symptoms of poisoning become evident, contact a Poisons Information Centre, or call a doctor at once. Remove source of contamination or move victim to fresh air. If breathing is difficult, oxygen may be beneficial if administered by trained personnel, preferably on a doctor's advice. DO NOT allow victim to move about unnecessarily. Symptoms of pulmonary oedema can be delayed up to 48 hours after exposure.
Ingestion	If product is swallowed or gets in mouth, do NOT induce vomiting; wash mouth with water and give some water to drink. If symptoms develop, or if in doubt contact a Poisons Information Centre or a doctor.
Skin contact	Wash gently and thoroughly with water (use non-abrasive soap if necessary) for 5 minutes or until chemical is removed.
Eye contact	No effects expected. If irritation does occur, flush contaminated eye(s) with lukewarm, gently flowing water for 5 minutes or until the product is removed. Obtain medical advice if irritation becomes painful or lasts more than a few minutes. Take special care if exposed person is wearing contact lenses.

SECTION 5. FIREFIGHTING MEASURES

Extinguishing media

Preferred extinguishing media are carbon dioxide, dry chemical, foam, water fog.

This product is classified as a C2 combustible product. There is no risk of an explosion from this product under normal circumstances if it is involved in a fire. Violent steam generation or eruption may occur upon application of direct water stream on hot liquids. Vapours from this product are heavier than air and may accumulate in sumps, pits and other low-lying spaces, forming potentially explosive mixtures. They may also flash back considerable distances.

Fire decomposition products from this product are likely to be irritating if inhaled.

Specific hazards arising from the chemical

Specific hazards	None known.
Hazardous combustion products	Thermal combustion of product may produce harmful gasses or vapours.

Special protective equipment and precautions for firefighters

Firefighting precautions	When fighting fires involving significant quantities of this product, wear a splash suit complete with self contained breathing apparatus.
Protective equipment	Self-contained breathing apparatus, suitable gloves and boots.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions	As a minimum, wear overalls, goggles and gloves. Suitable materials for protective clothing include rubber, PVC. Eye/face protective equipment should comprise as a minimum, protective glasses and, preferably, goggles. If there is a significant chance that vapours or mists are likely to build up in the cleanup area, we recommend that you use a respirator. Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned above. Otherwise, not normally necessary.
Environmental precautions	Avoid discharge into drains or watercourses or onto the ground.
Clean up methods	Stop leak if safe to do so, and contain spill. Absorb onto sand, vermiculite or other suitable absorbent material. If spill is too large or if absorbent material is not available, try to create a dike to stop material spreading or going into drains or waterways. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage, and dispose of promptly. Recycle containers wherever possible after careful cleaning. Refer to product label for specific instructions. After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. Full details regarding disposal of used containers, spillage and unused material may be found on the label. If there is any conflict between this MSDS and the label, instructions on the label prevail. Ensure legality of disposal by consulting regulations prior to disposal. Thoroughly launder protective clothing before storage or re-use. Advise laundry of nature of contamination when sending contaminated clothing to laundry.

SECTION 7. HANDLING AND STORAGE

Precautions for handling	Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this SDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimise risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10.
Conditions for safe storage	Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight. Make sure that the product does not come into contact with substances listed under "Materials to avoid" in Section 10. Some liquid preparations settle or separate on standing and may require stirring before use. Check packaging - there may be further storage instructions on the label.
Storage precautions	Note that his product is combustible and therefore, for Storage, meets the definition of Dangerous Goods in some states. If you store large quantities (tonnes) of such products, we suggest that you consult your state's Dangerous Goods laws in order to clarify your obligations regarding their storage.

SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure limits
Exposure limits have not been established by NOHSC for any of the significant ingredients in this product.

The Acceptable Daily intake for Methoprene is set at 0.4mg/kg/day.
The corresponding No-observable-effect- level is set at 35mg/kg/day.

Values taken from Australian ADI List, Aug 2003.

Exposure controls

Ventilation	This product should only be used in a well ventilated area. If natural ventilation is inadequate, use of a fan is suggested.
Eye Protection	Eye protection such as protective glasses or goggles is recommended when product is being used.
Skin Protection	You should avoid contact even with mild skin irritants. Therefore, you should wear suitable impervious elbow-length gloves and facial protection when handling this product. See below for material types.
Protective Material Types	We suggest that protective clothing be made from the following materials: PVC.
Respirator	Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned above. Otherwise, not normally necessary.

Safety deluge showers should, if practical, be provided near to where this product is being used.

The following Australian Standards will provide general advice regarding safety clothing and equipment

Respiratory equipment: AS/NZS 1715
Protective Gloves: AS 2161
Industrial Clothing: AS2919
Industrial Eye Protection: AS1336 and AS/NZS 1337
Occupational Protective Footwear: AS/NZS2210

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Slightly viscous liquid
Colour	Amber colour.
Odour	No information available.
Odour threshold	No information available.
pH	No information available.
Melting point	No specific data. Liquid at normal temperatures.
Boiling point	No information available
Flash point	No information available
Evaporation rate	No information available.
Evaporation factor	No information available.
Flammability (solid, gas)	Combustible
Upper/lower flammability or explosive limits	No information available.
Other flammability	No information available.
Vapour pressure	No information available.
Vapour density	No information available.
Relative density	No information available.
Bulk density	No information available.
Solubility(ies)	Emulsifiable.
Partition coefficient	No information available.
Auto-ignition temperature	No information available.
Decomposition Temperature	No information available.
Viscosity	No information available.
Explosive properties	No information available.
Explosive under the influence of a flame	No information available.
Oxidising properties	Does not meet the criteria for classification as oxidising.

SECTION 10. STABILITY AND REACTIVITY

Chemical stability	Stable under normal conditions when used and stored in accordance with label.
Reactivity	This product is unlikely to react or decompose under normal storage conditions.
Possibility of hazardous reactions	No hazardous reactions known.
Conditions to avoid	Exposure to heat.
Incompatible materials	Strong acids, strong bases, strong oxidising agents..
Hazardous decomposition	Does not decompose when used and stored as recommended. Combustion forms carbon dioxide, and if incomplete, carbon monoxide and smoke. Water is also formed. May form nitrogen and its compounds, and under some circumstances, oxides of nitrogen. Occasionally hydrogen cyanide gas in reducing atmospheres. May form oxides of sulfur (sulfur dioxide is a respiratory hazard) and other sulfur compounds. Most will have a foul odour. May form oxides of phosphorus and other phosphorus compounds. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Toxicological effects	Not regarded as a health hazard under current legislation.

Acute toxicity - oral

Notes (oral LD_{50})	The oral LD50 for Methoprene in rats is greater than 34,600 mg/kg, and in dogs is greater than 5000 mg/kg. The oral LD50 for Fenitrothion in rats is 800 mg/kg,

Acute toxicity - dermal

Notes (dermal LD_{50})	LD50 values of greater than 2000 to 3000 mg/kg in rabbits. Methoprene is not an eye or skin irritant, and it is not a skin sensitizer. The dermal LD50 for Fenitrothion in rats is 1110 mg/kg,

Acute toxicity - inhalation

Notes (inhalation LC_{50})	The inhalation LD50 for Methoprene in rats is greater than 210 mg/L. No overt signs of poisoning have been reported in incidents involving accidental human exposure to Methoprene. The inhalation LC50 for Fenitrothion in rats is 2.21 dust/mist mg/l.

Skin corrosion/irritation

Animal data	Contact may cause skin irritation.

Serious eye damage/irritation

Serious eye damage/irritation	Causes serious eye irritation.

Respiratory sensitisation

Respiratory sensitisation	Based on available data the classification criteria are not met.

Skin sensitisation

Skin sensitisation	Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitro	Methoprene does not appear to be mutagenic. No Methoprene-related mutagenic effects were observed in rats following a single dose of 2000 mg/kg

Carcinogenicity

Carcinogenicity	No tumours were seen in an 18-month feeding study with mice, or in a 24-month oncogenicity study with rats. These data suggest that Methoprene is not carcinogenic.
IARC carcinogenicity	None of the ingredients are listed or exempt.

Reproductive toxicity

Reproductive toxicity - fertility	Experimental data indicate that no reproductive hazards are associated with Methoprene. No Methoprene-related effects were observed in three- generation reproduction studies in rats receiving dietary doses of 125 mg/kg/day.
Reproductive toxicity- development	No available data.

Specific target organ toxicity

STOT- single exposure	No data available.
STOT- repeated exposure	The target organ primarily affected by Methoprene after long-term exposure is the liver.

Aspiration hazard

Aspiration hazard	Based on available data the classification criteria are not met.

General information

Inhalation	A single exposure may cause the following adverse effects: Headache. Exhaustion and weakness.
Skin contact	May cause redness and irritation.
Eye contact	Irritating to eyes.
Route of entry	Inhalation, ingestion, skin contact or eye contact.
Target organs	Lungs.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Effects on birds:	Methoprene is slightly toxic to birds. The reported 5- to 8-day LC50 values for Methoprene are greater than 10,000 ppm in mallard ducks and bobwhite quail, and the acute oral LD50 for Methoprene is greater than 4640 ppm in chickens. In mallards an acute oral LD50 of greater than 2000 mg/kg was determined. Nonlethal effects that may affect survival of the birds did appear at acute oral doses of 500 mg/kg. These effects appeared as soon as 2 hours after treatment and persisted for up to 2 days and included slowness, reluctance to move, sitting, withdrawal,

	and incoordination. These effects may decrease birdsurvival by making them temporarily more susceptible to predation. No effects were observed in the reproduction of bobwhite quail and mallard ducks at 30 ppm constant feeding of Methoprene.
Effects on aquatic organisms:	Dangerous to fish. DO NOT contaminate streams, rivers or waterways with the chemical or used containers.
Effects on other organisms:	Tests with earthworms showed little if any toxic effects on contact. It is nontoxic to bees.
Breakdown in soil and groundwater:	Methoprene is of low persistence in the soil environment; reported field half-lives are up to 10 days. In sandy loam, its half-life was calculated to be about 10 days. When Methoprene was applied at an extremely high application rate of 1 pound per acre, its half-life was less than 10 days. In soil, microbial degradation is rapid and appears to be the major route of its disappearance from soil. Methoprene also readily undergoes degradation by sunlight. Methoprene is rapidly and tightly sorbed to most soils. It is slightly soluble in water. These properties, along with its low environmental persistence make it unlikely to be significantly mobile. In field leaching studies, it was observed only in the top few inches of the soil, even after repeated washings with water.
Breakdown in water:	Methoprene degrades rapidly in water. Studies have demonstrated half-lives in pond water of about 30 and 40 hours at initial concentrations of 0.001 mg/L and 0.01 mg/L, respectively. At normal temperatures and levels of sunlight, technical Methoprene is rapidly degraded, mainly by aquatic microorganisms and sunlight.
Breakdown in vegetation:	Methoprene is biodegradable and non persistent, even in plants treated at very high rates. It has a half-life of less than 2 days in alfalfa when applied at a rate of 1 pound per acre. In rice, the half-life is less than 1 day. In wheat, its half-life was estimated to be 3 to 7 weeks, depending on the level of moisture in the plant. Plants grown in treated soil are not expected to contain Methoprene residues.
Toxicity	Aquatic Acute 1 - H400 Very toxic to aquatic life. Aquatic Chronic 1 - H410 Very toxic to aquatic life with long lasting effects.
Persistence and degradability	No data available.
Partition coefficient	No information available.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Other adverse effects	No data available.

SECTION 13. DISPOSAL CONSIDERATIONS

General information	Instructions concerning the disposal of this product and its containers are given on the product label. These should be carefully followed.
Disposal of packaging	Special help is available for the disposal of Agricultural Chemicals. The product label will give general advice regarding disposal of small quantities, and how to cleanse containers. However, for help with the collection of unwanted rural chemicals, contact ChemClear 1800 008 182 http://www.chemclear.com.au/ and for help with the disposal of empty drums, contact DrumMuster http://www.drummuster.com.au/ where you will find contact details for your area.

SECTION 14. TRANSPORT INFORMATION

General	This product is not classified as a Dangerous Good. No special transport conditions are necessary unless required by other regulations.

SECTION 15. REGULATORY INFORMATION

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

Legislation	*Work Health and Safety Act 2011* (Cth) *Work Health and Safety Regulations 2011* (Cth) *Work Health and Safety Act 2011* (Qld) *Work Health and Safety Regulation 2011* (Qld) *Work Health and Safety Act 2011* (ACT) *Work Health and Safety Regulation 2011* (ACT) *Work Health and Safety Act 2011* (NSW) *Work Health and Safety Regulation 2011* (NSW *Work Health and Safety (National Uniform Legislation) Act 2011* (NT) *Work Health and Safety (National Uniform Legislation) Regulations* (NT) *Work Health and Safety Act 2012* (SA) *Work Health and Safety Regulations 2012* (SA)

Work Health and Safety Act 2012 (Tas)

Work Health and Safety Regulations 2012 (Tas)

Occupational Health and Safety Regulations 1996 (WA)

Occupational Health and Safety Act 2004 (Vic)

Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code)

SECTION 16. OTHER INFORMATION

Revision date	31/12/16
Revision	2
Supersedes date	01/11/12
Complete hazard statements	H227 Combustible liquid H302 Harmful if swallowed. H304 May be fatal if swallowed and enters airways. H312 Harmful in contact with skin. H315 Causes skin irritation. H319 Causes serious eye irritation. H332 Harmful if inhaled. H335 May cause respiratory irritation. H336 May cause drowsiness or dizziness. H372 Causes damage to organs through prolonged or repeated exposure. H400 Very toxic to aquatic life.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.