

## 1: Identification of the Substance and Supplier

<b>Product Name</b>	<b>GRAINMASTER SUPERSMOKE</b>
<b>Recommended Use</b>	Insecticidal Smoke Generator
<b>Suppliers Details</b>	Orion AgriScience Ltd Unit 1, 15 Sir Gil Simpson Drive, Harewood, Christchurch, 8053 PO Box 39 071, Harewood, Christchurch, 8545
<b>Web Address</b>	www.orionagriscience.co.nz
<b>Email Address</b>	orders@orionagriscience.co.nz
<b>Telephone Number</b>	(03) 928 2386 (office hours), 0800 674 6627 (free phone)
<b>Emergency Telephone</b>	0800 CHEMCALL (0800 243 622) (24 hours)
<b>National Poison Centre</b>	0800 POISON (0800 764 766) (24 hours)
<b>Date of Issue/Revision</b>	March 2025

## 2: Hazards Identification

### Hazard Pictograms



### Signal Words

#### Hazard Classes:

Acute Oral Toxicity (Cat. 4)  
Eye Irritation (Cat. 2)  
Reproductive Toxicity (Cat. 2)  
Specific target organ toxicity repeated exposure (Cat. 1)  
Hazardous to the aquatic environment acute (Cat. 1)  
Hazardous to the aquatic environment chronic (Cat. 1)  
Hazardous to soil organisms  
Hazardous to terrestrial vertebrates  
Hazardous to terrestrial invertebrates

#### Precautionary Statements:

Prevention

### Response

### Danger

#### Hazard Statements:

H302 Harmful if swallowed  
H319 Causes serious eye irritation  
H361 Suspected of damaging fertility or the unborn child  
H372 Causes damage to organs through prolonged or repeated exposure  
H400 Very toxic to aquatic life  
H410 Very toxic to aquatic life with long lasting effects  
H423 Harmful to the soil environment  
H433 Toxic to terrestrial vertebrates  
H442 Very toxic to terrestrial invertebrates

P101 If medical advice is needed, have product container or label at hand  
P102 Keep out of reach of children  
P103 Read carefully and follow all instructions  
P201 Obtain special instructions before use  
P202 Do not handle until all safety precautions have been read and understood  
P264 Wash hands thoroughly after handling  
P270 Do not eat, drink or smoke when using this product  
P203 Obtain, read and follow all safety instructions before use  
P273 Avoid release to the environment  
P280 Where protective gloves/protective clothing/eye protection/face protection  
P260 Do not breathe dust/fumes/gas/vapors

P101 If medical advice is needed, have product container or label at hand  
P301+P312 IF SWALLOWED: Call a poison centre or doctor/physician if you feel unwell  
P330 Rinse mouth  
P337+P313 If eye irritation persists: Get medical advice/attention

	<p>P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes.</p> <p>P308+P313 If exposed or concerned: get medical advice/attention</p> <p>P314 Get medical advice/attention if you feel unwell</p> <p>P391 Collect spillage</p> <p>In an emergency call 111, Police or Fire Brigade. For specialist advice in an emergency only, call 0800 CHEMCALL (0800 243 6225) (24 hrs).</p>
Storage	<p>P405 Store locked up</p> <p>Keep out of reach of children.</p>
Disposal	<p>P501 Dispose of canister contents via use in accordance with this label. Dispose</p>

### 3: Composition/ Information on Ingredients

Ingredient	CAS No	Content (% w/w)
Pirimiphos-methyl (active ingredient)	29232-93-7	10
Deltamethrin (active ingredient)	52918-63-5	5
Potassium chlorate	3811-04-9	10 - 30
Talc	14807-96-6	30 – 60
Other ingredients	Proprietary	Remainder

### 4: First Aid Measures

If medical advice is needed, have product container or label at hand. For advice call the National Poisons Centre or a Doctor

<b>Ingestion:</b>	Rinse mouth. Seek medical advice
<b>Skin Contact:</b>	In case of contact with canister contents, wash with plenty of soap and water. Seek medical advice if irritation occurs, or if feeling unwell
<b>Eye Contact:</b>	In case of contact with canister contents, rinse eyes cautiously with water for several minutes. Remove contact lenses, if easy to do so. Continue rinsing. Seek medical advice if irritation persists.
<b>Inhalation:</b>	In case of inhalation of smoke or canister contents, remove to fresh air and keep at rest in a position comfortable for breathing. Seek medical advice if feeling unwell.
<b>Workplace Facilities:</b>	Hand wash facility. Eye wash facility
<b>Advice to Doctor:</b>	Pirimiphos-methyl is an organophosphate insecticide, which inhibits cholinesterase activity, and interferes in nerve pulse transmission. On set of symptoms may be delayed for several hours. Atropine is the specific antidote and may be given immediately by qualified staff, at a level of 2 - 5mg (intravenously or intramuscularly), every 20 minutes until atropinisation occurs. Considerable amounts of atropine may be necessary. Atropine must NOT be given to cyanosed patients; administer oxygen first. Do NOT use opiates or barbiturates. If convulsions occur, administer diazepam (10mg intravenously). Take venous blood sample for determination of blood cholinesterase activity. Cholinesterase reactivators (Pralidoxime) should, if possible, be given at the same time as atropine. They are not effective after 24 hours post exposure and are not substitutes for atropine. Pralidoxime should be administered at: Mild poisoning: 1g in 2 - 3ml water (intramuscularly), Severe poisoning: 2g in 30ml water (intravenously). Following ingestion, adsorbents such as charcoal may be of value.
<b>National Poison Centre</b>	0800 POISON (0800 764 766) (24 hours)

Symptoms of Exposure which could occur if this material is not handled in accordance with instructions:

<b>Ingestion:</b>	Excessive sweating, salivation, headache, weakness, faintness, nausea, diarrhoea, small pupils, blurred vision, muscle twitching, numbness of tongue and lips
<b>Skin Contact:</b>	Irritation, numbness, tingling
<b>Eye Contact:</b>	Irritation. May cause constriction of the pupil.
<b>Inhalation:</b>	May cause irritation. Can be absorbed via the lungs (see symptoms under 'swallowed' above)

**Note: Symptoms may be delayed for up to 24 hours or more following exposure**

### 5: Fire-Fighting Measures

<b>Fire/Explosion Hazard</b>	Highly combustible material. Ignites readily. Contains an oxidiser (potassium chlorate). As with many dusts, an explosive air/dust mixture may be formed if rough handling liberates dust in enclosed or poorly ventilated areas
<b>HAZCHEM Code</b>	2Z
<b>ERP Guide No</b>	47
<b>Extinguishing Media</b>	Water spray, foam, dry chemical or CO2. Avoid water jet.
<b>Fire Fighting Instructions</b>	During a fire, toxic fumes may be emitted. Wear self-contained breathing apparatus. Contain runoff.
<b>Specific Hazards Arising from Fire</b>	No data available

### 6: Accidental Release Measures

<b>Personal Precautions</b>	Wear protective clothing as described in section 8. Do not inhale smoke or dust. Exclude non-essential people from the area.
<b>Environmental Precautions</b>	Prevent further spillage or leakage. Prevent material from entering drains, waterways, etc.
<b>Clean Up</b>	Keep bystanders away. If canisters have spilled contents, wear chemical resistant gloves (PVC, nitrile or neoprene). Do not inhale dust. Moisten to prevent dusting, and carefully sweep up. If dust is generated, wear a respirator (particulate matter). Place spilled product in a sealable container. Dispose of to a suitable landfill.

### 7: Handling and Storage

<b>Storage:</b>	Keep out of reach of children. Store in the original tightly closed container in a secure area.
<b>Handling and Use:</b>	Keep out of reach of children. Avoid contact with eyes and skin. Avoid inhalation of dust or smoke. Wear protective clothing as described in section 8. Do not eat, drink or smoke while using. Evacuate all people and animals. Secure the treatment area, and display a warning notice at each entry point. Do not use in flammable or explosive environments. When igniting, do not place on combustible surfaces, or near to combustible materials. Keep exit door open whilst generators are being lit, and close on exiting treatment area. Close all other doors, ventilators, etc. before treatment. Keep persons and animals out of treated areas while treating, and for the duration of the REI. Ventilate thoroughly before re-entry. Wear gloves when handling used canisters. For use in grain stores or silos only. Do not use where food is exposed, or where dairy or meat products are processed, packed or stored. Refer to section 15 for additional information
<b>REI</b>	24 hours closed silo followed by 3 hours ventilation

### 8: Exposure Controls / Personal Protection

<b>Tolerable Exposure Limit</b>	None established
<b>Workplace Exposure Standards</b>	Talc 2 mg/m <sup>3</sup> respirable dust
<b>Engineering Controls</b>	Not applicable
<b>Biological Monitoring</b>	Regular users should undergo biological monitoring of cholinesterase activity. Consult with your GP or Occupational Health Adviser.
<b>Personal Protection:</b>	The following Standards provide general advice regarding safety clothing and equipment: Respiratory equipment: AS/NZS 1715, Protective Gloves: AS 2161, Occupational Protective Clothing: AS/NZS 4501, Industrial Eye Protection: AS1336 and AS/NZS 1337, Occupational Protective Footwear: AS/NZS2210.
<b>Eye</b>	Safety glasses/goggles when igniting
<b>Skin</b>	Cotton overalls snugly fitting at the neck, wrist and ankle, and boots. Wear gloves (barrier multilayer, nitrile, neoprene) when handling the used canister.

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### Respiratory

Not required where smoke is not inhaled. If smoke is or could be inhaled, or where entering treated area within the REI, a respirator (organic vapour and particulate matter) is required

Clean protective equipment after use

## 9: Physical and Chemical Properties

Appearance	Grey/Off white powder in aluminium canister
Odour	Pungent
Odour Threshold	Does not apply
pH	Does not apply
Melting Point/Freezing Point	Does not apply
Boiling Point	Does not apply
Flash Point	Does not apply
Flammability	Not flammable
Upper/Lower Flammability Limits	Does not apply As with many dusts, an explosive air/dust mixture may be formed if rough handling liberates dust in enclosed or poorly ventilated areas
Vapour Pressure	Does not apply
Vapour Density	Does not apply
Relative Density	Does not apply
Solubility in Water	Insoluble
Partition Coefficient: n-octanol/water	See section 12
Auto ignition Temperature	450 - 500°C
Decomposition Temperature	Does not apply
Kinematic Viscosity	Does not apply
Particle characteristics	Does not apply

## 10: Stability and Reactivity

Stability	Stable under normal conditions
Hazardous Reactions	Oxidizer (contains Potassium chlorate)
Incompatibility	Avoid mixing with any combustible materials
Hazardous Decomposition Products	None Known

## 11: Toxicological Information

This section describes effects which could occur if this material is not handled in accordance with this data sheet and label instructions

Acute Oral Toxicity	LD50 > 300 mg/kg
Acute Dermal Toxicity	LD50 > 5000 mg/kg
Acute Inhalation Toxicity	LD50 > 5 mg/L
Skin corrosion/irritation	Irritation
Serious eye damage/Eye irritation	Irritation
Respiratory or skin sensitisation	Information not available
Germ cell mutagenicity	Information not available
Carcinogenicity	Information not available
Reproductive Toxicity	Primingphos methyl is a suspected human reproductive or developmental toxin
Specific Organ Toxicity – Single exposure	Information not available
Specific Organ Toxicity – Repeated exposure	Primingphos-methyl and deltamethrin are nervous system toxins. Primingphos-methyl interferes with cholinesterase, an enzyme essential for the correct functioning of the nervous system. In animal studies, repeated inhalation of deltamethrin was found to cause agitation, hypersensitivity, impaired locomotor

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Aspiration hazard	activity, and reduced weight gain. Information not available
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### 12: Ecological Information

This section describes effects which could occur if this material is not handled in accordance with this data sheet and label instructions

The following information is presented in respect of the active ingredient:

Ecotoxicity	<b>Pirimiphos-methyl</b>	
	<ul style="list-style-type: none"> <li>Acute Oral LD50 (Bobwhite quail) 40 mg/kg</li> <li>LC50 (96 hr) (Rainbow trout) 0.64 mg/l</li> <li>LC50 (48 hr) (Daphnia) 0.21 µg/l</li> <li>Algae EC50 1.0 mg/l</li> <li>Very toxic to bees</li> </ul>	
Persistence/degradability	<b>Deltamethrin</b>	
	<ul style="list-style-type: none"> <li>Acute Oral LD50 (Rat) 31 mg/kg</li> <li>LC50 (96 hr) (Rainbow trout) 0.25 µg/l</li> <li>EC50 (48 hr) (Daphnia) 0.56 µg/l</li> <li>Algae EC50 (72 hr) 9.1 mg/l</li> <li>Very toxic to bees</li> </ul>	
Persistence/degradability	Biodegradable. DT50 (soil) 39 days (typical) (Pirimiphos-methyl)	
	Biodegradable. DT50 (soil) 58 days (typical) (Deltamethrin)	
Bioaccumulative Potential	Octanol-water partition coefficient	LogP = 4.2 (high) (Pirimiphos-methyl) LogP = 4.6 (high) (Deltamethrin)
Soil Mobility	Soil organic carbon water partitioning coefficient	Koc = 1100 (slightly-mobile) (Pirimiphos-methyl) Koc = 10240000 (non-mobile) (Deltamethrin)
Environmental Exposure Limit:	None established	

### 13: Disposal Considerations

Product	Dispose of product by using it in accordance with the label. Waste product should be disposed of to a suitable landfill. For disposal of large quantities contact Orion AgriScience Ltd.
Container	Dispose of to a suitable landfill. Do not burn. Do not use packaging for any other purpose.

### 14: Transport Information

Dangerous Goods	
UN Number	3077
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (PIRIMIPHOS-METHYL 10%, DELTAMETHRIN 5%)
Class	9
Subsidiary Class	None
Packing Group	III
Additional Information	MARINE POLLUTANT
MTQ (Non-Commercial)	1000 Kg
Passenger Service Vehicle	No restriction

### 15 Regulatory Information

EPA Approval No	HSR101001
ACVM Registration No	Not applicable

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<b>Qualified Person</b>	Required
<b>Certified Handler</b>	Not required
<b>Workplace Only</b>	No
<b>Tracking</b>	Not required
<b>Record Keeping</b>	Not required (unless > 3 Kg applied within 24 hours, and which is likely to leave the application area)
<b>Site Requirements under EPA Notice and HSWHS Regs:</b>	<ul style="list-style-type: none"> <li>• A hazardous substance location compliance certificate is not required</li> <li>• A hazardous area is not required</li> <li>• Separation distances for class 3 and class 6 substances to protected places and public places is not applicable</li> <li>• Fire extinguishers are not required</li> <li>• Signage is required for more than 100 Kg</li> <li>• An emergency response plan is required for more than 100 Kg</li> <li>• Secondary containment is required for more than 100 Kg</li> <li>• Segregation from incompatible substances is not required</li> </ul>
<b>Use Directions</b>	The intended exit door of a grain store/silo must remain open until the operator has left the grain store/silo after ignition of the generator. All openings including doors and vents (except for the exit door), must be closed prior to ignition of the generator. The generator is not to be ignited while any person other than the operator is present in the grain store/silo. The exit door must be closed after (i) ignition of the generator; (ii) the operator has exited the grain store/silo; and (iii) no other person is present in the grain store/silo.
<b>Use Restrictions</b>	This product is for use in grain stores and grain silos only. Other uses are not permitted.
<b>Signage</b>	Signs must be posted at every access point to the treatment area stating an application is being carried out using a substance that is toxic to people; access is not permitted unless appropriate protective equipment is worn; details of the required protective equipment required to be worn for entry, the person in charge; the date of the application; and the time/date of the expiry of the REI. Signs must be removed within 72 hours of the end of the REI.
<b>Additional Requirements</b>	Refer to NZS 8409:2004 'Management of Agrichemicals', and relevant local and regional council plans

16: Other Information	
<b>SDS review date</b>	3 March 2025
<b>Glossary</b>	
<b>ADE</b>	Acceptable Daily Exposure – A daily dose, received via any route, below which no adverse effects are expected over a lifetime of exposure
<b>ACVM</b>	Agricultural Compounds and Veterinary Medicines group of the Ministry of Primary Industries
<b>Cat.</b>	GHS category
<b>Ceiling</b>	A concentration that should not be exceeded at any time during any part of the working day
<b>Certified Handler</b>	A qualification issued by a Compliance Certifier to handle and use particularly toxic substances (6.1A and 6.1B)
<b>DT50</b>	Time (days) for 50% reduction in concentration
<b>EC50</b>	Concentration required to produce an effect in 50% of organisms
<b>Environmental Exposure Limit</b>	Maximum concentration limit of a substance in an environmental medium, e.g., water, soil.
<b>EPA Notice</b>	Hazardous Property Controls Notice 2017
<b>ERP Guide</b>	Dangerous Goods – Initial Emergency Response Guide SNZ HB 76:2008
<b>GHS</b>	Globally harmonized system of classification and labelling of chemicals
<b>Hazardous Substance Location</b>	For locations storing hazard substances of certain classes above threshold quantities
<b>Compliance Certificate</b>	
<b>Hazardous Area</b>	A designated area designed for the presence of flammable substances - Refer AS/NZS 60079.10.1:2009
<b>HAZCHEM Code</b>	Emergency action code for emergency services
<b>HSWHS Regs</b>	Health and Safety at Work (Hazardous Substances) Regulations 2017

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<b>LC50</b>	Concentration that will kill 50% of organisms
<b>LD50</b>	Dose that will kill 50% of organisms
<b>MTQ</b>	Maximum Transport Quantity. The maximum amount of dangerous goods that can be transported by road by the user
<b>Notification</b>	Advance notice given to neighbours and other affected parties, of details of proposed application, and other details as described
<b>Octanol-Water Partition Coefficient</b>	The partition coefficient of a substance between n-octanol and water, used as the Logarithm base 10 form, as an indicator that a substance may bioaccumulate
<b>PDE</b>	Permitted Daily Exposure - A daily dose below which no adverse effects are expected over a lifetime of exposure
<b>Protected Place</b>	Residential properties, schools, hospitals, kindys, factories, shops, warehouses, etc., and other places where people assemble
<b>Public Place</b>	A place frequented by the public, including roads (does not include private property)
<b>Qualified Person</b>	A requirement for the loader, contractor or person applying the product to hold a qualification such as a GROWSAFE Certificate, Unit Standard 21563, etc.
<b>Record Keeping</b>	Includes a spray diary or other record of application
<b>REI</b>	Restricted Entry Interval – The length of time after application before entry into the treated area is permitted without the use of protective equipment. For indoor environments, this time period commences once ventilation after treatment begins.
<b>Segregation</b>	Certain classes of substances must not be in contact with, and must be stored separately from, certain other classes as specified in HSWHS Regs
<b>Separation Distances</b>	The distances specified in Part 11 and Part 13 of HSWHS Regs between storage and/or use of hazardous substances and protected places and/or public places
<b>Signage</b>	Positioned at entrances to commercial premises providing information on the hazardous substances present
<b>Soil Adsorption Coefficient (Kd)</b>	The ratio of the concentrations of a substance adsorbed onto a solid sorbent to that dissolved in a liquid phase. The higher the value the less mobile the chemical is in soil
<b>Soil Organic Carbon-Water Partitioning Coefficient (Koc)</b>	The ratio of the mass of a chemical that is adsorbed in the soil per unit mass of organic carbon in the soil. The higher the value the less mobile the chemical is in soil
<b>STEL</b>	Short term exposure level – 15 minute time weighted average
<b>Tolerable Exposure Limit</b>	Maximum concentration limit of a substance above which persons must not be exposed
<b>Tracking</b>	For some particularly hazardous substances, a record must be kept of the transport, storage, sale and use of the product
<b>TWA</b>	Time weighted average calculated over an 8 hour working day
<b>Workplace Exposure Standard</b>	An occupational health standard limiting concentrations of specified substances to which persons are exposed
<b>Workplace Only</b>	A product that is restricted to a workplace only and under the supervision of a certified handler

**Please Note**

Users must ensure that the most up to date version of this safety data sheet is used.

This Safety Data Sheet summarises information on this product, and how to safely handle and use the product. Each user should familiarise themselves with the product label and Safety Data Sheet, and consider the information in the context of how the product will be handled and used, including in conjunction with other products. Orion AgriScience Ltd assumes no responsibility for the accuracy, completeness or suitability of this information. The user is responsible for determining the suitability and accuracy of this information for their particular purposes.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.