## Section 1 - IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Protect-us Australia Pty Ltd
Unit 3, 2 Duck Street
AUBURN, NSW 2144
Tel: 1800 420 144

Protect-us New Zealand
10A Stoneden Drive
East Tamaki AUCKLAND 2013
Tel: 0800 367 978

| | |
|---|---|
| **Chemical nature:** | Insecticide smoke generator containing deltamethrin. |
| **Trade Name:** | **Protect-us Delta Fume™ Insecticide Smoke Generator** |
| **Product Code:** | Australia APVMA: 70128/1122224 |
| **Product Use:** | Insecticide for use as described on the product label. |
| **Creation Date:** | **March, 2018** |
| **This version issued:** | **May, 2018** and is valid for 5 years from this date. |

## Section 2 - HAZARDS IDENTIFICATION

**Statement of Hazardous Nature**
This product is classified as: O, Oxidising. Xn, Harmful. N, Dangerous to the environment. Hazardous according to the criteria of SWA. Explosive when mixed with combustible material.
Not a Dangerous Good according to the Australian Dangerous Goods (ADG) Code.
**Risk Phrases:** R5, R9, R66, R67, R20/22, R50/53. Heating may cause an explosion. Explosive when mixed with combustible material. Repeated exposure may cause skin dryness or cracking. Vapours may cause drowsiness and dizziness. Harmful by inhalation and if swallowed. Very toxic to aquatic organisms, may cause long-term adverse effects to the aquatic environment.
**Safety Phrases:** S2, S13, S16, S17, S23, S24, S38, S41, S45. Keep out of reach of children. Keep away from food, drink and animal feeding stuffs. Keep away from sources of ignition - No smoking. Keep away from combustible material. Do not breathe smoke. Avoid contact with skin. In case of insufficient ventilation, wear suitable respiratory equipment. In case of fire and/or explosion, do not breathe fumes. In case of accident or if you feel unwell, contact a doctor or Poisons Information Centre immediately (show this SDS where possible).
**SUSMP Classification:** S6
**ADG Classification:** None allocated. Not a Dangerous Good under the ADG Code. IATA or IMSBC criteria. **IATA:** Non-Hazardous for Air Transport.
**UN Number:** None allocated.

**GHS Signal word: HARMFUL**
**HAZARD STATEMENT:**

H271: May cause fire or explosion; strong oxidizer.
H302: Harmful if swallowed.
H319 Causes serious eye irritation.
H332: Harmful if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 May cause respiratory irritation.
H410: Very toxic to aquatic life with long lasting effects.
EUH066: Repeated exposure may cause skin dryness or cracking.

**PREVENTION**

P102: Keep out of reach of children.
P260: Do not breathe dusts or smoke.
P262: Do not get in eyes, on skin, or on clothing.
P264: Wash contacted areas thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P281: Use personal protective equipment as required.

**RESPONSE**

P312: Call a POISON CENTRE or doctor if you feel unwell.
P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P370+P378: In case of fire, use carbon dioxide, dry chemical, foam.
P371+P380+P375: In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

**STORAGE**

P402: Store in a dry place.
P410: Protect from sunlight.
P403+P233: Store in a well-ventilated place. Keep container tightly closed.

**DISPOSAL**

P501: Dispose of contents and containers as specified on the registered label.

## Emergency Overview

**Physical Description & colour:** Light grey tablets wrapped in cellophane.
**Odour:** Characteristic odour.
**Major Health Hazards:** Symptoms and consequences of deltamethrin poisoning include: sweating, fever, anxiety and rapid heartbeat. If swallowed, symptoms are likely to include feeling sick, vomiting, diarrhoea, twitching of arms and legs, and convulsions if poisoning is severe. Studies have shown many cases of dermal deltamethrin poisoning after agricultural use with inadequate handling precautions, and many cases of accidental or suicidal poisoning by the oral route at doses estimated to be 2-250 mg/kg. Oral ingestion caused epigastric pain, nausea, vomiting and coarse muscular fasciculations. With doses of 100-250 mg/kg, coma was caused within 15-20 minutes. Harmful by inhalation and if swallowed, repeated exposure may cause skin dryness or cracking, vapours may cause drowsiness.

## Potential Health Effects

**Inhalation:**
**Short term exposure:** High vapour pressures may cause drowsiness and dizziness. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation.
**Long Term exposure:** Vapours may cause drowsiness and dizziness.

**Skin Contact:**
**Short term exposure:** Causes skin irritation. May cause an allergic skin reaction.
**Long Term exposure:** Repeated exposure may cause skin dryness or cracking.

**Eye Contact:**
**Short term exposure:** This product causes eye irritation.
**Long Term exposure:** No data for health effects associated with long term eye exposure.

**Ingestion:**
**Short term exposure:** Significant oral exposure is considered to be unlikely. Available data shows that this product is harmful. This product may be irritating to mucous membranes.
**Long Term exposure:** No data for health effects associated with long term ingestion.

**Carcinogen Status:**

**SWA:** No significant ingredient is classified as carcinogenic by SWA.
**NTP:** No significant ingredient is classified as carcinogenic by NTP.
**IARC:** No significant ingredient is classified as carcinogenic by IARC.

## Section 3 - COMPOSITION/INFORMATION ON INGREDIENTS

| Ingredients | CAS No | Conc,% | TWA (mg/m$^3$) | STEL (mg/m$^3$) |
|---|---|---|---|---|
| Deltamethrin | 52918-63-5 | 2 | not set | not set |
| Potassium chlorate | 3811-04-9 | 20-50 | not set | not set |
| Ammonium chloride | 12125-02-9 | 10-20 | 10 | 20 |
| Other non-hazardous ingredients | | to 100 | not set | not set |

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non hazardous ingredients are also possible.

The SWA TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. The STEL (Short Term Exposure Limit) is an exposure value that may be equalled (but should not be exceeded) for no longer than 15 minutes and should not be repeated more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak "is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

## Section 4 - 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 11 26 from anywhere in Australia or 0800 764 766 in New Zealand, and is available at all times. Have this SDS with you when you call.

**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.
**Skin Contact:** Wash skin vigorously and thoroughly with water (use non-abrasive soap if necessary) for 5 minutes or until product is removed. Do not use solvents or oils.
**Eye Contact:** Quickly and gently brush particles from eyes. Flush contaminated eye(s) with lukewarm, gently flowing water for 15 minutes or until the product is removed, while holding eyelids open. Obtain medical advice if irritation becomes painful or lasts more than a few minutes. Take special care if exposed person is wearing contact lenses.
**Ingestion:** If swallowed, do NOT induce vomiting. Wash mouth with water and contact a Poisons Information Centre, or call a doctor immediately. Keep calm.

## Section 5 - FIRE FIGHTING MEASURES

**Fire and Explosion Hazards:** There is a moderate risk of an explosion from this product if commercial quantities are involved in a fire. Fire-fighters should take care and appropriate precautions. Fire decomposition products from this product are likely to be toxic if inhaled. This product is a smoke generation device and when ignited will give off smoke containing deltamethrin. Take appropriate protective measures.
**Extinguishing Media:** In case of fire, use carbon dioxide, dry chemical, foam.
**Fire Fighting:** When fighting fires involving significant quantities of this product, wear a fully encapsulated splash suit complete with self contained breathing apparatus. Cool undamaged containers exposed to fire with water spray.

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| **Flash point:** | 87 °C |
| **Upper Flammability Limit:** | No data. |
| **Lower Flammability Limit:** | No data. |
| **Autoignition temperature:** | No data. |
| **Flammability Class:** | No data. |

## Section 6 - ACCIDENTAL RELEASE MEASURES

**Accidental release:** In the event of a major spill, prevent spillage from entering drains or water courses. Wear full protective clothing including eye/face protection. All skin areas should be covered. See below under Personal Protection regarding Australian Standards relating to personal protective equipment. Use impermeable gloves with care. Eye/face protective equipment should comprise as a minimum, protective goggles. If there is a significant chance that dusts are likely to build up in clean-up area, we recommend that you use a suitable Dust Mask. Otherwise, not normally necessary. Stop leak if safe to do so, and contain spill. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage, and dispose of promptly. Consider vacuuming if appropriate. 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 SDS 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

**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.
**Storage:** This product is a Schedule 6 Poison. Observe all relevant regulations regarding sale, transport and storage of this schedule of poison. Keep containers dry and away from water. Keep containers of this product in a well ventilated area. Keep away from heat and flame. Keep away from sources of ignition such as sparks and open flames. 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 "Incompatibilities" in Section 10. Check packaging - there may be further storage instructions on the label.

## Section 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

The following Australian Standards will provide general advice regarding safety clothing and equipment:
Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Occupational Protective Clothing: AS/NZS 4501 set 2008, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.

| **SWA Exposure Limits** | **TWA (mg/m$^3$)** | **STEL (mg/m$^3$)** |
|---|---|---|
| Ammonium chloride | 10 | 20 |

The ADI for deltamethrin is set at 0.01 mg/kg/day. The corresponding NOEL is set at 1 mg/kg/day. ADI means Acceptable Daily Intake; NOEL means No-observable-effect-level. Data from Australian ADI List, June 2013.
No special equipment is usually needed when occasionally handling small quantities. The following instructions are for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems.
**Ventilation:** This product should only be used where there is ventilation that is adequate to keep exposure below the TWA levels.
**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 product. See below for suitable material types.
**Protective Material Types:** There is no specific recommendation for any particular protective material type.
**Respirator:** The use of a half-face piece respirator is recommended during and after application of the product, including during early re-entry into the treated area.

## Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

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|---|---|
| **Physical Description & colour:** | Light grey tablets wrapped in cellophane |
| **Odour:** | Characteristic odour |
| **Boiling Point:** | Not available |
| **Freezing/Melting Point:** | No specific data. Solid at normal temperatures |
| **Volatiles:** | No data |
| **Vapour Pressure:** | No data |
| **Vapour Density:** | Not applicable |
| **Density:** | 0.89 g/cm$^3$ |
| **Water Solubility:** | Insoluble |
| **pH:** | No data |
| **Volatility:** | No data |
| **Evaporation Rate:** | Not applicable |

## Section 10 - STABILITY AND REACTIVITY

**Reactivity:** This product is unlikely to react or decompose under normal storage conditions. However, if you have any doubts, contact the supplier for advice on shelf life properties.
**Conditions to Avoid:** This product should be kept in a cool place, preferably below 30 °C. Keep containers tightly closed. Containers should be kept dry. Keep containers and surrounding areas well ventilated.
**Incompatibilities:** Strong oxidising agents.
**Fire Decomposition:** Combustion forms carbon dioxide, and if incomplete, carbon monoxide and possibly 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 sulphur (sulphur dioxide is a respiratory hazard) and other sulphur compounds. Most will have a foul odour. May form hydrogen chloride gas, other compounds of chlorine. Potassium compounds, deltamethrin. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.
**Polymerisation:** This product will not undergo polymerisation reactions.

## Section 11 - TOXICOLOGICAL INFORMATION

**Toxicity:** An information profile for deltamethrin is available at http://extoxnet.orst.edu/pips/ghindex.html
**Acute Toxicity:** The acute oral $LD_{50}$ in male rats ranged from 128 mg/kg to greater than 5,000 mg/kg depending on the carrier and conditions of the study; the $LD_{50}$ for female rats was 52 mg/kg and other published values range from 31 to 139 mg/kg. The acute dermal $LD_{50}$ for rabbits was greater than 2,000 mg/kg. No skin irritation and slight eye irritation were reported.
**Reproductive Effects:** Oral administration of deltamethrin to mice on days 7 to 16 of gestation produced a dosage related reduction of weight gain but no effect on the number of implants, foetal mortality, foetal weight or malformations.
**Teratogenic Effects:** No reported teratogenicity in mice, rats or rabbits. Deltamethrin has no teratogenic activity.
**Mutagenic Effects:** No mutagenic effects in mice, rats or rabbits. Deltamethrin has no mutagenic activity.
**Carcinogenic Effects:** No information available.

### Classification of Hazardous Ingredients

| Ingredient | Risk Phrases |
|---|---|

No ingredient mentioned in the HSIS Database is present in this product at hazardous concentrations.

## Section 12 - ECOLOGICAL INFORMATION

Very toxic to aquatic organisms, may cause long-term adverse effects to the aquatic environment. This product is unlikely to adversely effect the environment. Salts, acids and bases are typically diluted and neutralised when released to the environment in small quantities.
**Effects on Birds:** The reported 8-day $LC_{50}$ for ducks was greater than 4,640 mg/kg diet; and greater than 10,000 mg/kg diet for quail.
**Effects on Aquatic Organisms:** As is common with many pyrethroids, deltamethrin has a high toxicity to fish under laboratory conditions. However, in field conditions under normal conditions of use, fish are not harmed. In laboratory trials, the $LC_{50}$ for fish was 1-10 micrograms/L. Aquatic fauna, particularly crustacea, may be affected, but fish are not harmed under normal conditions of use.
**Effects on Other Animals (Non-target species):** Deltamethrin is considered toxic to bees.
**ENVIRONMENTAL FATE**
**Breakdown of Chemical in Soil and Groundwater:** In soil, degradation occurs within 1-2 weeks.
**Breakdown of Chemical in Surface Water:** Deltamethrin in pond water was rapidly adsorbed, mostly by sediment, in addition to uptake by plants and evaporation into the air.
**Breakdown of Chemical in Vegetation:** About 10 days after use, there are no deltamethrin residues observed on plants. There is no known phytotoxicity to crops.

## Section 13 - DISPOSAL CONSIDERATIONS

**Disposal:** 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

**ADG Code:** This product is not classified as a Dangerous Good. No special transport conditions are necessary unless required by other regulations.
**IATA:** Non-Hazardous for Air Transport.

## Section 15 - REGULATORY INFORMATION

**AICS:** All of the significant ingredients in this formulation are compliant with NICNAS regulations.

## Section 16 - OTHER INFORMATION

**This SDS contains only safety-related information. For other data see product literature.**

If there is any conflict between this SDS and the registered label, instructions on the label prevail.

**Acronyms:**

| | |
|---|---|
| **ADG Code** | Australian Code for the Transport of Dangerous Goods by Road and Rail (7th edition) |
| **AICS** | Australian Inventory of Chemical Substances |
| **SWA** | Safe Work Australia, formerly ASCC and NOHSC |
| **CAS number** | Chemical Abstracts Service Registry Number |
| **Hazchem Code** | Emergency action code of numbers and letters that provide information to emergency services especially fire-fighters |
| **IARC** | International Agency for Research on Cancer |
| **NOS** | Not otherwise specified |
| **NTP** | National Toxicology Program (USA) |
| **R-Phrase** | Risk Phrase |
| **SUSMP** | Standard for the Uniform Scheduling of Medicines & Poisons |
| **UN Number** | United Nations Number |

THIS SDS SUMMARISES OUR BEST KNOWLEDGE OF THE HEALTH AND SAFETY HAZARD INFORMATION OF THE PRODUCT AND HOW TO SAFELY HANDLE AND USE THE PRODUCT IN THE WORKPLACE. EACH USER MUST REVIEW THIS SDS IN THE CONTEXT OF HOW THE PRODUCT WILL BE HANDLED AND USED IN THE WORKPLACE.

IF CLARIFICATION OR FURTHER INFORMATION IS NEEDED TO ENSURE THAT AN APPROPRIATE RISK ASSESSMENT CAN BE MADE, THE USER SHOULD CONTACT THIS COMPANY SO WE CAN ATTEMPT TO OBTAIN ADDITIONAL INFORMATION FROM OUR SUPPLIERS

OUR RESPONSIBILITY FOR PRODUCTS SOLD IS SUBJECT TO OUR STANDARD TERMS AND CONDITIONS, A COPY OF WHICH IS SENT TO OUR CUSTOMERS AND IS ALSO AVAILABLE ON REQUEST.

**Please read all labels carefully before using product.**

**This SDS is prepared in accord with the SWA document "Preparation of Safety Data Sheets for Hazardous Chemicals - Code of Practice" (December 2011)**