



## 1. IDENTIFICATION OF THE MATERIAL AND THE MANUFACTURER

|                     |   |             |                             |
|---------------------|---|-------------|-----------------------------|
| <b>Product Name</b> | <b>MAC SLAY NATURAL PYRETHRIN INSECTICIDE</b><br>(in the forms of Automatic Dispenser Refill Aerosols 250ml & 300ml and Multi Shot Aerosol 400ml) |             |                             |
| <b>Address</b>      | 108 Rockfield Road, Penrose, Auckland 1061, New Zealand   |             |                             |
| <b>Telephone</b>    | +64 (9) 579 5139  |             |                             |
| <b>Emergency</b>    | National Poisons Centre -24 hours   |             |                             |
|                     | Australia   | 13 11 26    |                             |
| <b>E-mail</b>       | <a href="mailto:sales@arandee.co.nz">sales@arandee.co.nz</a>  | New Zealand | 0800 POISON<br>0800 764 766 |
| <b>Web Site</b>     | <a href="http://www.arandee.co.nz">http://www.arandee.co.nz</a>   |             |                             |
| <b>Synonym(s)</b>   | MAC Slay; MAC Slay Natural  |             |                             |

**Use(s)** Formulated with pyrethrum, a natural pyrethrin extracted from Chrysanthemum Daisies. Flushes and repels unwanted insects. Causes a phototropic response.

## 2. HAZARDS IDENTIFICATION

CLASSIFIED AS HAZARDOUS ACCORDING TO GHS AND THE HAZARDOUS SUBSTANCES (MINIMUM DEGREE OF HAZARD) REGS 2001. CLASSIFIED AS A DANGEROUS GOOD, UNDER NZS 5433



**Signal Word: DANGER**

|   |            |
|---|------------|
| Flammable aerosol   | Category 1 |
| Skin sensitisation  | Category 1 |
| Respiratory sensitisation                                 | Category 1 |
| Specific Target Organ Systemic Toxicity (Repeat Exposure) | Category 2 |

|                          |            |
|--------------------------|------------|
| Aquatic toxicity (Acute) | Category 1 |
|--------------------------|------------|

|                  |                  |                              |
|------------------|------------------|------------------------------|
| <b>UN Number</b> | <b>1950</b>      | <b>Dangerous Goods Risks</b> |
| <b>DG Class</b>  | <b>2.1.2A 2Y</b> | Flammable Aerosol            |

|                          |      |   |
|--------------------------|------|---|
| <b>HAZARD STATEMENTS</b> | H223 | Flammable aerosol   |
|                          | H317 | May cause an allergic skin reaction                                       |
|                          | H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled |
|                          | H371 | May cause damage to organs  |
|                          | H373 | May cause damage to organs through prolonged or repeated exposure         |



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|                                 |           |   |
|---------------------------------|-----------|---|
|                                 | H410      | Very toxic to aquatic life with long lasting effects  |
|                                 | H441      | Very toxic to terrestrial invertebrates   |
| <b>PRECAUTIONARY STATEMENTS</b> | P103      | Read label before use   |
|                                 | P104      | Read Safety Data Sheet before use   |
|                                 | P210      | Keep away from heat/open flames. No Smoking   |
|                                 | P211      | Do not spray on an open flame or other ignition source  |
|                                 | P251      | Pressurized container. Do not pierce or burn even after use   |
|                                 | P261      | Avoid breathing spray   |
|                                 | P264      | Wash hands thoroughly after handling  |
|                                 | P270      | Do not eat, drink or smoke when using this product  |
|                                 | P272      | Contaminated work clothing should not be allowed out of the workplace   |
|                                 | P273      | Avoid release to the environment  |
|                                 | P280      | Wear protective gloves  |
|                                 | P285      | In case of inadequate ventilation wear respiratory protection   |
| <b>RESPONSE STATEMENTS</b>      | P314      | Get medical advice/attention if you feel unwell   |
|                                 | P321      | Specific treatment (see information on this label)  |
|                                 | P363      | Wash contaminated clothing before re-use  |
|                                 | P391      | Collect spillage  |
|                                 | P302+P352 | IF ON SKIN: Wash with plenty of soap and water  |
|                                 | P304+P341 | IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing |
|                                 | P309+P311 | IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician  |
|                                 | P333+P313 | If skin irritation or rash occurs: Get medical advice/attention   |
|                                 | P342+P311 | If experiencing respiratory symptoms. Call a POISON CENTER or doctor/physician                                      |
| <b>STORAGE STATEMENTS</b>       | P405      | Store locked up   |
|                                 | P410+P412 | Protect from sunlight. Do not expose to temperatures exceeding 50°C   |
| <b>DISPOSAL STATEMENTS</b>      | P501      | Dispose of in accordance with relevant local legislation  |

### 3. HAZARDS IDENTIFICATION COMPOSITION OF INGREDIENTS

| Name   | %[weight] | CAS Number    |
|--|-----------|---------------|
| HYDROCARBONS, C11-C13, ISOALKANES, <2% AROMATICS | 10-40     | 64742-48-9    |
| PIPERONYL BUTOXIDE                               | 1-5       | 51-03-6       |
| PYRETHRUM  | 0.05-1    | 8003-34-7     |
| INGREDIENTS DETERMINED NOT BE HAZARDOUS          | BALANCE   | NOT AVAILABLE |



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## 4. FIRST AID MEASURES

|                             |  |
|-----------------------------|--|
| <b>Eye</b>                  | If aerosols come in contact with eyes: <ul style="list-style-type: none"><li>• Immediately hold eyelids apart and flush the eye with fresh running water</li><li>• Ensure complete irrigation of the eye by keeping eyelids apart and away from eye moving the eyelids by occasionally lifting the upper the lower lids.</li><li>• Seek medical attention without delay; if pain persists or recurs seek medical attention.</li><li>• Removal of contact lenses after an eye injury should only be taken by skilled personnel.</li></ul> |
| <b>Inhalation</b>           | If aerosols, fumes or combustion products are inhaled: <ul style="list-style-type: none"><li>• Remove to fresh air</li><li>• Lay patient down. Keep warm and rested</li><li>• Prosthesis such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</li><li>• If breathing is shallow and has stopped, ensure clear airway and apply resuscitation, preferably with a demand valve</li></ul>  |
| <b>Skin</b>                 | If solids or aerosol mists are deposited up on the skin: <ul style="list-style-type: none"><li>• Flush skin and hair with running water (and soap if available)</li><li>• Remove any adhering solids with industrial cleansing cream</li><li>• DO NOT use solvents</li><li>• Seek medical attention in the event of irritation.</li></ul>  |
| <b>Ingestion</b>            | Not considered a normal route of entry <ul style="list-style-type: none"><li>• Avoid giving milk or oils</li><li>• Avoid giving alcohol</li></ul>  |
| <b>Advice to Doctor</b>     | Treat symptomatically.   |
| <b>First Aid Facilities</b> | Eye wash facilities should be provided.  |

## 5. FIRE FIGHTING MEASURES

### Extinguishing media

**Small Fire**

Water Spray, dry chemical CO<sub>2</sub>

**Large Fire**

Water spray or fog

**Flammability**

Highly flammable. Vapours may form explosive mixtures with air. May evolve toxic gases (carbon oxides, hydrocarbons) when heated to decomposition temperatures. When handling a significant spillage, eliminate all ignition sources, including cigarettes, open flames, spark producing switches, heaters, naked lights, mobile phones, etc. Aerosol cans may explode when heated above 50 °C.

**Fire and Explosion**

Highly flammable, explosive vapour. Evacuate area and contact emergency services. Toxic gases may evolve, when heated. Remain upwind and notify those downwind of hazard.



Wear full protective equipment, including Self Contained Breathing Apparatus (SCBA), when combating fire. Use waterfog to cool intact containers and nearby storage areas.

**Extinguishing** Dry agent, carbon dioxide foam, or water fog. Prevent contamination of drains or waterways; absorb runoff with sand or similar.

**HazChem** 2Y

## 6. ACCIDENTAL RELEASE MEASURES

**Spillage** If large quantities of cans are punctured (bulk), clear area of all unprotected personnel and ventilate area. Wear splash-proof goggles, leather gloves, coveralls, and boots. Where inhalation risks exist, wear a Type A-Class P1 (Organic vapour and Particulate) respirator. Collect cans and allow to discharge outdoors. Absorb any residues with sand or similar and place in clean containers for disposal. DO NOT wash away into sewer.

## 7. HANDLING AND STORAGE

**Handling** Use safe work practices to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Keep out of the reach of children. DO NOT puncture aerosol cans or incinerate, even when empty.

**Storage** Store in a cool, dry well-ventilated area, well away from oxidising agents, acids, alkalis, direct sunlight, heat or ignition sources, or foodstuffs. Ensure containers are adequately labelled, protected from physical damage, and sealed when not in use. Check regularly for leaks or spills. Large storage areas should have appropriate fire protection.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Control parameters

### Occupational Exposure Limits (OEL)

### INGREDIENT DATA

| Source   | Ingredient                                      | Material Name     | TWA                 | STEL                 | Peak          | Notes  |
|--|---|-------------------|---------------------|----------------------|---------------|--|
| New Zealand Workplace Exposure Standards (WES) | Hydrocarbons, C11-C13 isoalkanes, <2% aromatics | Oil mist, mineral | 5 mg/m <sup>3</sup> | 10 mg/m <sup>3</sup> | Not Available | (om) – Sampled by a method that does not collect vapour. |
| New Zealand Workplace Exposure Standards (WES) | Pyrethrum                                       | Pyrethrum         | 5 mg/m <sup>3</sup> | Not Available        | Not Available | (sen) – Sanitiser  |

### EMERGENCY LIMITS

| Ingredient                                       | Material Name                                 | TEEL-1                             | TEEL-2                  | TEEL-3                   |
|--|---|------------------------------------|-------------------------|--------------------------|
| Hydrocarbons, C11-C13, isoalkanes, <2% aromatics | Naphtha, hydrotreated heavy; (Isopar L-rev 2) | 350 gm/m <sup>3</sup>              | 1,800 mg/m <sup>3</sup> | 40.000 mg/m <sup>3</sup> |
| piperonyl butoxide                               | Piperonyl butoxide                            | 6.5 m <sup>3</sup> /m <sup>3</sup> | 72 mg/m <sup>3</sup>    | 1,200 mg/m <sup>3</sup>  |

| Ingredient                                      | Original IDLH           | Revised IDLH  |
|---|-------------------------|---------------|
| Hydrocarbons, C11-C13 isoalkanes, <2% aromatics | 2,500 mg/m <sup>3</sup> | Not Available |
| Piperonyl butoxide                              | Not Available           | Not Available |
| Pyrethrum                                       | 5,000 mg/m <sup>3</sup> | Not Available |

**Exposure controls**  
**Appropriate engineering controls**

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed. Engineering controls can be highly effective in protecting and will typically be independent of worker interactions to provide this high level of protection.

The basic types of engineering controls are:

Process controls which involve changing the way a job activity or process is done to reduce the risk. Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.

**Personal Protection Equipment**

No personal protective equipment is required, normally. When an inhalation risk exists wear a Type A-Class P1 (Organic vapour and Particulate) Respirator. With prolonged use, wear PVC or rubber gloves and splash-proof goggles or safety glasses.



**Eye and face Protection**

No special equipment for minor exposure i.e. when handling small quantities.

**OTHERWISE:** For potentially moderate or heavy exposure:

-Safety glasses with side shields.

**NOTE:** Contact lenses pose a special hazard; soft lenses may absorb irritants and ALL lenses concentrate them.

-Safety glasses with side shields

-Chemical goggles

-Contact lenses may pose a special hazard; soft contacts lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task.

**Skin Protection**

See Hand protection below

**Hands/Feet Protection**

**NOTE:**

-The material may produce skin sensitisation in predisposed individuals. Care must be taken when removing gloves and other protective equipment, to avoid all possible skin contact.

-Contaminated leather items such as shoes, belts and watch-bands should be removed and destroyed.

-No special equipment needed when handling small quantities.

**OTHERWISE:**

-For potentially moderate exposures:

-Wear general protective gloves, e.g. Light weight rubber gloves.

-For potentially heavy exposures;

-Wear chemical protective gloves, e.g. PVC, and safety footwear.

**Body Protection**

See Other protection below



**Other Protection** No special equipment needed when handling small quantities.  
**OTHERWISE:**  
-Overalls  
-Skin cleansing cream  
-Eyewash unit  
-The clothing worn by process operators insulated from earth may develop static charges far higher (up to 100 times) than the minimum ignition energies for various flammable gas-air mixtures. The is holds true for a wide range of materials including cotton.  
-Avoid dangerous levels of charge by ensuring a low resistivity of the surface material worn outermost.

### Respiratory protection

Type A-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required.

Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

| Required Minimum Protection Factor | Half-Face Respirator | Full-Face Respirator | Powered Air Respirator  |
|------------------------------------|----------------------|----------------------|-------------------------|
| up to 10 x ES                      | A-AUS P2             | -                    | A-PAPR-AUS / Class 1 P2 |
| up to 50 x ES                      | -                    | A-AUS / Class 1 P2   | -                       |
| up to 100 x ES                     | -                    | A-2 P2               | A-PAPR-2 P2 ^           |

^ - Full-face

A (All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide (HCN), B3 = Acid gas or hydrogen cyanide (HCN), E = Sulfur dioxide (SO<sub>2</sub>), G = Agriculture chemicals, K = Ammonia (NH<sub>3</sub>), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

-Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.

-The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the restricted use of cartridge respirators is considered appropriate.

-Cartridge performance is affected by humidity. Cartridge should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily regardless of the length of time used. Aerosols, in common with most vapours/ mists, should never be used in confined spaces without adequate ventilation. Aerosols, containing agents designed to enhance or mask smell, have triggered allergic reactions in predisposed individuals.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

|                         |   |                                  |               |
|-------------------------|---|----------------------------------|---------------|
| <b>Appearance</b>       | Colourless liquid spray with characteristic odour, does not mist with water | <b>Solubility (water)</b>        | IMMISCIBLE    |
| <b>Odour</b>            | NOT AVAILABLE   | <b>Specific Gravity</b>          | 0.80 - 0.82   |
| <b>pH</b>               | NOT AVAILABLE   | <b>% Volatiles</b>               | NOT AVAILABLE |
| <b>Vapour Pressure</b>  | NOT AVAILABLE   | <b>Flammability</b>              | FLAMMABLE     |
| <b>Vapour Density</b>   | NOT AVAILABLE   | <b>Flash Point</b>               | 54 °C         |
| <b>Melting Point</b>    | NOT AVAILABLE   | <b>Upper Explosion Limit</b>     | NOT AVAILABLE |
| <b>Boiling Point</b>    | NOT AVAILABLE   | <b>Lower Explosion Limit</b>     | NOT AVAILABLE |
| <b>Evaporation Rate</b> | NOT AVAILABLE   | <b>Auto-ignition Temperature</b> | NOT AVAILABLE |



## 10. STABILITY AND REACTIVITY

|                               |   |
|-------------------------------|---|
| <b>Reactivity</b>             | Avoid reaction with oxidising agents  |
| <b>Decomposition Products</b> | May evolve toxic gases (carbon oxides, hydrocarbons) when heated to decomposition temperatures. |

## 11. TOXICOLOGICAL INFORMATION

|                     |  |
|---------------------|--|
| <b>Inhaled</b>      | <p>The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practise requires that exposure be kept to a minimum and that suitable control measure be used in an occupational setting. Piperidine at a concentration of 2-5 parts per million did not cause irritation in workers, but the pungent odour could be tolerated by an unacclimated person for only a short time. The vapour is discomforting.</p> <p><b>WARNING:</b> Intentional misuses by concentrating/inhaling contents may be lethal. Inhalation of high concentrations of gas/vapour causes lung irritation with coughing and nausea, central nervous depression with headache and dizziness, slowing of reflexes, fatigue and inco-ordination.</p> |
| <b>Eye</b>          | <p>When instilled into the eyes of rabbits, piperidine caused severe injury with permanent corneal damage.</p> <p>Spray mist may produce discomfort</p>  |
| <b>Skin Contact</b> | <p>The liquid may be able to be mixed with fats or oils and may degrease the skin, producing a skin reaction described as non-allergic contact dermatitis. The material is unlikely to produce an irritant dermatitis as described in EC Directives.</p> <p>Spray mist may produce discomfort</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material</p> <p>The material may accentuate any pre-existing dermatitis condition</p>  |
| <b>Ingestion</b>    | <p>Exposure to the piperidines may result in blood pressure and heart rate, nausea, vomiting, salivation, laboured breathing, muscular weakness, paralysis and convulsions. It may also excite the senses of hearing and touch</p> <p>Not normal a hazard due to physical from of product.</p> <p>Considered an unlikely route of entry in commercial/industrial environments.</p>   |
| <b>Chronic</b>      | <p>Inhaling this product is more likely to cause a sensitisation reaction in some person compared to the general population.</p> <p>Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population.</p> <p>Prolonged or repeated skin contact may cause drying with cracking, irritation and possible dermatitis following.</p> <p>Animal testing showed that exposure to piperidine has led to changes in brain electrical activity, the cardiovascular system and formation of sperm, decreased body weight gain and changes to the live and the kidney. Low blood pressure, increased permeability of skin capillaries and neuromuscular irritability were seen at lower concentrations. Normal human</p>   |



urine contains small amounts of piperidine. The substance can also increase blood pressure and stimulate breathing like its related substance, nicotine.

#### HYDROCARBONS C11- C13, ISOALKANES, <2% AROMATICS

C9 -C11 cyclic aliphatics were administered via oral gavage to 5 male and 5 female rats at a dose of 5000 mg/kg to assess acute oral toxicity. Animals were observed daily for 15 days post dosing. At a dose of 5000 mg/kg, signs of toxicity were sedation, dyspnea, hunched posture and ruffled fur. All animals had recovered until day 5 of observation and survived to study termination. C9 -C11 cyclic aliphatics were administered via individual inhalation chambers for eight hours to eight Sprague-Dawley rats at vapor concentration of 0 (air), 1 g/m<sup>3</sup> (170ppm), 2.5 g/m<sup>3</sup> (430ppm), 5 g/m<sup>3</sup> (860ppm) for three consecutive days. There was no mortality noted in any of the animals. Based on the conditions of this **Legend**: – *Data either not available or does not fill the criteria for classification*– *Data available to make classification* study, the LC50 for acute inhalation exposure to C9 -C11 cyclic aliphatics vapor is greater than the highest obtainable vapor concentration (5 g/m<sup>3</sup>). Classification as an acute inhalation toxicant is not warranted. Five male and five female rabbits were exposed to P-D 20/26 for 24h via an occluded patch. Dermal evaluations occurred at 24 hours post patch removal and twice daily until the study termination at day 14. Exposure had no effect on viability; all animals survived the exposure. The LD50 of P-D 20/26 was > 2000 mg/kg. Skin irritation: Three rabbits were subjected to a 4h dermal (shaved) exposure of 0.5 ml of ECOLANE 90 via a semi-occluded patch. Dermal responses were evaluated at 1, 24, 48, and 72h post-dosing and once a day for a total of 14 days according to the Draize method of scoring. A very slight or well-defined erythema was observed in all animals from day 1 up to day 9 or 10. A slight oedema was noted in two animals on day 1 only. Eye Irritation: C9-C11, cyclic aliphatics was administered to the left eye of three male and three female rabbits to assess for ocular irritation. Ocular examinations occurred at 1h, 24h, 48h, 72h. Ocular damage was assessed and scored according to the Draize eye test. All animals survived the exposure. Sensitisation: A Magnusson and Kligman Guinea-Pig Maximization test was conducted on 20 guinea pigs with Shellsol TD. Twenty guinea pigs were treated by intradermal injection (1.0% (w/v) Shellsol TD in vehicle) to induce sensitization and then further sensitized by dermal application of 50.0% (w/v) Shellsol TD. Guinea Pigs were challenged by topical application (25.0% (w/v) Shellsol TD in corn oil). All animals survived to termination of study. In humans, MRD-88-296 showed no evidence of being photo contact allergen and no evidence of being either a primary irritant or a contact allergen. Based on these data and results, MRD-88-296 would not be classified as a dermal irritant or as a dermal sensitizer. Repeat dose toxicity: oral Results of subchronic exposure of tetramethylcyclohexane (TMCH) to rats and dogs failed to show any treatment-related morphological or qualitative changes in the cellular elements of the peripheral blood picture. This result is consistent with a similar lack of effects noted after acute TMCH exposure. The NOAEL for rats was 30000ppm. The NOAEL for dogs was 1000ppm. Genetic toxicity: in vitro No Shellsol TD treatments of any of the test strains, either in the absence or in the presence of S-9, resulted in a statistically significant increase in revertant numbers, when the data were analysed at the 1% level using Dunnetts test. This study was therefore considered to have provided no indication of any SHELLSOL TD mutagenic activity. The test to assess the genotoxicity of the test material was negative. This finding does not warrant the classification of this test material as a genotoxin. Genetic toxicity: in vivo MRD-77-43 when administered by vapor inhalation to male rats is not considered mutagenic by the dominant lethal test. This finding does not warrant the classification of MRD-77-43 as a genotoxin. Toxicity to Reproduction: The NOAEL >=3000 mg/kg/day for male rat fertility. Male rats were given 0, 750, 1500 or 3000 mg/kg neat JP-8 daily by gavage for 70 days prior to mating with naïve females to assess fertility and sperm parameters. Males were allowed to mate while continuing to receive treatment. Aside from a decrement in male body weight, no clinical



signs were observed. There were no statistical differences noted in any reproductive parameter measured. Developmental toxicity: No adverse effects due to exposure to the test substance were seen in either dams or fetuses. No treatment related malformation effects were noted in the fetuses. The developmental NOAEC for rats by inhalation is  $\geq 300$  ppm. The test substance is also not teratogenic. \* REACH Dossier Animal studies indicate that normal, branched and cyclic paraffins are absorbed from the gastrointestinal tract and that the absorption of n-paraffins is inversely proportional to the carbon chain length, with little absorption above C30. With respect to the carbon chain lengths likely to be present in mineral oil, n-paraffins may be absorbed to a greater extent than iso- or cyclo-paraffins. The major classes of hydrocarbons are well absorbed into the gastrointestinal tract in various species. In many cases, the hydrophobic hydrocarbons are ingested in association with fats in the diet.

**PIPERONYL BUTOXIDE**

The substance is classified by IARC as Group 3:  
**NOT** classifiable as to its carcinogenicity to humans.

**PYRETHRUM**

Evidence of carcinogenicity may be inadequate or limited in animal testing.  
Dermal (rabbit) LD50:  $>1880$  mg/kg [Handbook of Toxicology] \*Published value - probably not peer-reviewed ADI: 0.03mg/kg

No significant acute toxicological data identified in literature search.  
Pyrethrins have low to moderate acute toxicity when swallowed, inhaled and on skin contact. They have a moderate irritant effect on the eye and skin (but do not sensitise the skin). The toxic effects of pyrethrin include tremors, laboured breathing, hyperactivity, thyroid disturbances, and liver effects.  
Animal testing has found that pyrethrins can cause tremors and convulsions before death and that pyrethrins are toxic to the axon.  
ADI: 0.04 mg/kg/day

**12. ECOLOGICAL INFORMATION**

**Environment** Environmental effects of the compound are extremely unlikely, due to packaging in the form of an aerosol. Ensure appropriate measures are taken to prevent this product from entering the environment through wastewater.

**13. DISPOSAL CONSIDERATIONS**

**Waste Disposal** For small amounts, absorb contents with sand or similar and dispose of to an approved landfill site. DO NOT puncture or incinerate aerosol cans. Contact the manufacturer for additional information.

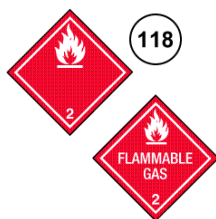
**Legislation** Dispose of in accordance with relevant, local legislation.

## 14. TRANSPORT INFORMATION

CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG AND HZNO CODES.

|             | Shipping Name                          | UN No | Packing Group     | DG Class | Subsidiary Risk(s) | EPG |
|-------------|--|-------|-------------------|----------|--------------------|-----|
| <b>Land</b> | Compressed Gas<br>Flammable<br>Aerosol | 1950  | None<br>Allocated | 2.1      | None Allocated     | 2C1 |
|             |  |       |                   |          |                    |     |
| <b>Sea</b>  | Compressed Gas<br>Flammable<br>Aerosol | 1950  | III               | 2.1      | None Allocated     | 2C1 |
|             |  |       |                   |          |                    |     |

### Shipping Label



### Marine Pollutant



## 15. REGULATORY INFORMATION

|                        |   |
|------------------------|---|
| <b>Poison Schedule</b> | A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP). |
| <b>AICS</b>            | All chemicals listed on the Australian Inventory of Chemical Substances (AICS).   |
| <b>MPI</b>             | Ministry of Primary Industries approved Type A<br>(All animal products excluding dairy)<br>Approved pursuant to the HSNO Act 1996,                          |
| <b>NZEPA</b>           | Approval No. HSR101271  |

## 16. OTHER INFORMATION

**Additional Information** ASPHYXIANTS (1): reduce the oxygen concentration by displacement, when present in the atmospheres, in high concentrations. As most simple asphyxiants are odourless, atmospheres deficient in oxygen do not provide adequate sensory warning of danger. Therefore, it is not generally appropriate to recommend an exposure standard for each asphyxiant, but instead warn of the need to maintain oxygen concentrations.

Some asphyxiants may be given an exposure standard, due to their potential for narcotic effects at high concentrations, or an explosion hazard.



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|                                      |  |
|--------------------------------------|--|
| <b>Asphyxiants (2)</b>               | There is a significant hazard associated with workers entering poorly, ventilated areas (e.g. tanks) where oxygen levels may be deficient. An air supplied breathing apparatus may be required if adequate ventilation is not ensured. Refer to AS/NZS 2865 - Safe Working in a Confined Space.  |
| <b>Respirators</b>                   | <p>In general, the best practice to avoid exposure is to use engineering controls, such as adequate ventilation, rather than the use of respirators (which should be limited).</p> <p>If respiratory equipment must be worn, ensure correct respirator selection and training is undertaken. Some respirators may be extremely uncomfortable, when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.</p>  |
| <b>Abbreviations</b>                 | <p>Mg/m<sup>3</sup> - Milligrams per cubic metre</p> <p>ppm - Parts Per Million</p> <p>M - moles per litre, a unit of measure of concentration.</p> <p>pH - relates to hydrogen ion concentration - this value will relate to a scale of 0 – 14, where 0 is highly acidic and 14 is highly alkaline.</p> <p>TWA/ES - Time Weighted Average or Exposure Standard.</p> <p>CAS# - Chemical Abstract Service number - uniquely identifies chemical compounds.</p> <p>CNS - Central Nervous System</p> <p>NOS - Not Otherwise Specified</p> <p>IARC - International Agency for Research on Cancer.</p>  |
| <b>Personal Protective Equipment</b> | The recommendations for protective equipment contained within this SDS report are provided as a guide only, when dealing with an abnormal situation. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered, before the final selection of personal protective equipment is made.  |
| <b>Health Effects from Exposure</b>  | It should be noted that the effects from excess exposure to this product would depend on several factors, including duration of exposure, quantity involved, effectiveness of control measures used; protective equipment and method of application. Given that, it is impractical to prepare an SDS report, which would encompass all possible scenarios, it is anticipated that users will assess the risks in an emergency and apply appropriate control methods.   |
| <b>Report Status</b>                 | <p>This report is based upon information provided by ingredient manufacturers, and third-party experts. We believe that the information represents the current state of knowledge about safety and handling precautions that are appropriate for this product. Further clarification regarding any aspect of the product should be obtained directly from the Chief Chemist at Arandee Ltd.</p> <p>While Arandee has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy, or completeness. As far as lawfully possible, Arandee accepts no liability for any loss, injury, or damage (including consequential loss) which may be suffered, or incurred by any person, because of their reliance upon the information contained in this Safety Data Sheet.</p> |