



SAFETY DATA SHEET

MAC SLAY SURFACE SPRAY / CRACK & CREVICE / FOGGER RESIDUAL INSECTICIDES

1. IDENTIFICATION OF THE MATERIAL AND THE MANUFACTURER

Product Name	MAC SLAY SURFACE SPRAY – RESIDUAL INSECTICIDE MAC SLAY CRACK & CREVICE – RESIDUAL INSECTICIDE MAC SLAY FOGGER – RESIDUAL INSECTICIDE All formats: 500ml, 300ml, 150g aerosols		
Supplier Name	Arandee Ltd		
Address	108 Rockfield Road, Penrose, Auckland 1601, New Zealand		
Telephone	+64 (9) 579 5139		
Fax	+64 (9) 579 7628		
Emergency	National Poisons Centre -24 hours	Australia	13 11 26
		New Zealand	0800 POISION 0800 764 766
E-mail	sales@arandee.co.nz		
Web Site	http://www.arandee.co.nz		
Synonym(s)	MAC SLAY, RESIDUAL SPRAY		
Use(s)	MAC Slay Residual Insecticides are (d'phenothrin & permethrin) a synthetic, pyrethroid mix with high residual life and effective against insect pests. Used as a residual insecticide in public health control against mosquitoes, houseflies, fleas and cockroaches, silverfish, carpet beetles etc. (Okuno et al., 1976). Environmental Protection Authority HSR000276		
Approvals	AsureQuality Approved. MPI approval Type A (all meats including dairy) MPI approved for use at approved transitional facilities (for disinsection of shipping containers).		

2. HAZARDS IDENTIFICATION

UN Number	DG Class	HazChem Code	Dangerous Goods Risks
1950	2.1.2A	2Y	Contains gas under pressure; may explode if heated Contains refrigerated gas; may cause cryogenic burns or injury.
		H223	Flammable aerosols
		P210	Keep away from heat/sparks/open flame/hot surfaces
		P211	Do not spray on an open flame, or other ignition source.
		P251	Pressurized container. Do not pierce or burn even after use
		P403	Store in a well ventilated place.
		P410	Protect from direct sunlight
		P412	Do not expose to temperatures exceeding 50°C/122°F



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3. HAZARDS IDENTIFICATION COMPOSITION OF INGREDIENTS

Ingredient	Formula	Concentration	CAS Number
d,PHENOTHRIN	$C_{23}H_{26}O_3$	2%	26002-80-2
PERMETHRIN	$C_{21}H_{20}Cl_2O_3$	2%	52645-53-1
ALIPHATIC HYDROCARBON LIQUID	Proprietary	<5%	64741-65-7
HYDROCARBON PROPELLANT BLEND	$C_2H_2F_4$	<32%	74-98-6 106-97-8

4. FIRST AID MEASURES

Eye	Hold eyelids apart and flush continuously with water. Continue until advised to stop by the Poisons Information Centre, a doctor, or for at least 15 minutes. Keep patient calm.
Inhalation	Leave area of exposure immediately. If assisting a victim, avoid becoming a casualty, wear an Air-line respirator where an inhalation risk exists. Remove victim from exposure area & keep warm. If victim is not breathing, apply artificial respiration & seek urgent medical attention.
Skin	Cold burns: Remove contaminated clothing and gently flush affected areas with warm water (30 C) for 15 minutes. Apply sterile dressing and treat as for a thermal burn. For large burns, immerse in warm water for 15 minutes. DO NOT apply any form of direct heat. Seek immediate medical attention.
Ingestion	For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor. If swallowed, do not induce vomiting.
Advice to Doctor	Treat symptomatically

5. FIRE FIGHTING MEASURES

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.



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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 an Air-line respirator. Collect cans and allow to discharge outdoors. Dike spills. Use only non-sparking equipment. Absorb any residues with non-combustible absorbent materials eg sand or similar. Place in clean containers for disposal according to local/national regulations. DO NOT wash away into sewer.

7. STORAGE AND HANDING

Storage Store in dry, cool, well ventilated, area, removed from heat (including direct sunlight), oxidising agents, alkalis, active metals, metal powders (e.g. aluminium, barium, lithium), and foodstuffs. Aerosol containers may explode if exposed to excessive heat (>50 C). Ensure containers are adequately labelled and protected from physical damage. Keep away from all sources of ignition.

Handling Before use, carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Keep out of the reach of children and pets. Pressurised container. DO NOT puncture aerosol cans or incinerate, even when empty.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Ventilation Do not directly inhale concentrated vapours. Use in well-ventilated areas. For poorly ventilated areas, mechanical extraction ventilation is recommended. Maintain vapour levels below the recommended exposure standard.

Vapours are heavier than air and may travel some distance to an ignition source and flash back. Maintain vapour levels below the recommended exposure standard.

Exposure Standards
d-PHENOTHRIN – No TVL levels have been established by Regulators.
PERMETHRIN -- No TVL levels have been established by Regulators.
LIQUIFIED PETROLEUM GAS (LPG) (68476-85-7)
ES-STEL: 400 ppm (1800 mg/m³)

Personal Protection Equipment If dealing with a high volume incident, wear safety glasses, splash-proof goggles and leather gloves. Where an inhalation risk exists, wear a Type A-Class P1 (Organic gases/vapours and Particulate) Respirator. Wear coveralls when using large quantities, or where heavy contamination is likely. At high vapour levels, wear an Air-line respirator.





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9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	COLOURLESS AEROSOL GAS	Solubility (water)	DISPERSABLE
Odour	SLIGHT, ETHEREAL-LIKE ODOUR	Specific Gravity	1.212
pH	NOT AVAILABLE	% Volatiles	100 %
Vapour Pressure	0.583 Mpa @25°C	Flammability	HIGHLY FLAMMABLE
Vapour Density	> 1 (Air = 1)	Flash Point	< 20 °C (Propellant)
Melting Point	34-39°C Permethrin	Upper Explosion Limit	NOT AVAILABLE
Boiling Point	-26.4°C	Lower Explosion Limit	NOT AVAILABLE
Evaporation Rate	NOT AVAILABLE	Auto-ignition Temperature	NOT AVAILABLE

10. STABILITY AND REACTIVITY

Reactivity	Incompatible with oxidising agents (e.g. hypochlorite), alkalis/ alkali earth metals and finely divided metal powders (e.g. aluminium, barium, lithium).
Decomposition Products	May evolve toxic gases (carbon oxides, hydrocarbons) when heated to decomposition temperatures.

11. TOXICOLOGICAL INFORMATION

Health Hazard Summary	<p>Permethrin was evaluated by the WHO/IPCS in 1990, with the following conclusions (IPCS, 1990, p13-14).</p> <p><u>General population.</u> The exposure of the general population to Permethrin is expected to be low and is not likely to present a hazard when it is used as recommended.</p> <p><u>Occupational exposure.</u> With reasonable work practices, hygiene measures and safety precautions, permethrin is unlikely to be an occupational hazard.</p> <p><u>Asphyxiant narcotic.</u> This product may only present a hazard with direct eye contact, prolonged and repeated skin contact or with vapour/gas inhalation at high levels. May cause frostbite or cold burns with direct contact.</p>
Eye	Low irritant However, direct contact with evaporating liquid may result in severe cold burns with possible permanent damage.
Inhalation	Irritant, narcotic, asphyxiant. Over exposure may result in upper respiratory tract irritation, nausea and headache. At high levels; dizziness, breathing difficulties, and at very high levels, anaesthesia, cardiac arrhythmias, pulmonary oedema and unconsciousness.
Skin	Low irritant. Prolonged contact may result in irritation. Contact with liquid from aerosol may result in frostbite with severe tissue damage.
Ingestion	Exposure considered unlikely, due to product form of aerosol and under normal conditions of use, ingestion is considered an unlikely exposure route.



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Poison Schedule AICS 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).
All chemicals listed on the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION

HMIS Rating Health 1
Flammability 4
Reactivity 0

Additional Information ASPHYXIANTS (1): When present in the atmospheres, in high concentrations, asphyxiants reduce the oxygen concentration by displacement. Atmospheres deficient in oxygen do not provide adequate sensory warning of danger, as most simple asphyxiants are odourless. 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.

Asphyxiants (2) 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.

Respirators In general, the use of respirators should be limited, and engineering controls, such as adequate ventilation, employed instead, to avoid exposure. If respiratory equipment must be worn, ensure correct respirator selection and training is undertaken. Remember that 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.

Abbreviations ABBREVIATIONS:-
mg/m³ - Milligrams per cubic metre
ppm - Parts Per Million
CNS - Central Nervous System
NOS - Not Otherwise Specified
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.
TWA/ES - Time Weighted Average or Exposure Standard.
CAS# - Chemical Abstract Service number - uniquely identifies chemical compounds.
M - moles per litre, a unit of measure of concentration.
IARC - International Agency for Research on Cancer.

Personal Protective Equipment 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.

Health Effects From Exposure 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 a 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.



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12. ECOLOGICAL INFORMATION

Environment

Environmental effects of the compound are extremely unlikely, due to packaging in the form of an aerosol. The WHO hazard classification of technical permethrin is "unlikely to present an acute hazard in normal use" (WHO, 1988). Ensure appropriate measures are taken to prevent this product from entering the environment through wastewater. Extremely toxic to aquatic life and bees

13. DISPOSAL CONSIDERATIONS

Waste Disposal

For small amounts, absorb contents with sand or similar non-combustible material and dispose of to an approved landfill site. Do not puncture or incinerate aerosol cans. Cans may be thrown into general rubbish or recycled where possible.

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
Land	Compressed Gas Flammable Aerosol	1950	None Allocated	2.1	None Allocated	2C1
Sea	Compressed Gas Flammable Aerosol	1950	III	2.1	None Allocated	2C1

Shipping Label



15. REGULATORY INFORMATION



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Report Status

This report is based upon information provided to Arandee by the ingredient manufacturers, or that obtained from third party sources. It is believed to represent the current state of knowledge about appropriate safety and handling precautions for the product, at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from Arandee Ltd.

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.

