1. IDENTIFICATION OF THE MATERIAL AND THE MANUFACTURER

Product Name	**MAC SLAY MAX COCKROACH & CRAWLING INSECT INSECTICIDE** (ALL AEROSOL FORMATS)		
Supplier Name	Arandee Ltd		
Address	108 Rockfield Road, Penrose, Auckland 1061, New Zealand		
Telephone	+64 (9) 579 5139		
Emergency	National Poisons Centre -24 hours	Australia	13 11 26
		New Zealand	0800 POISON 0800 764 766
E-mail	sales@arandee.co.nz		
Web Site	http://www.arandee.co.nz		
Synonym(s)	MAC Slay; MAC Slay MAX		
Use(s)	Application is by spray atomisation from a handheld aerosol pack. Use according to manufacturer's directions.		

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

Physical Hazards	Aerosol 1
Health Hazards	Skin Irritation 2, Skin Sensitisation 1A, Germ Cell Mutagenicity 1, Carcinogenicity 1, Reproductive Toxicity 2, STOT Single Exposure 3, Aspiration Toxicity 1
Environmental Hazards	Aquatic Acute 1, Aquatic Chronic 1
Ecotoxic to terrestrial invertebrates	Triggered

HAZARD STATEMENTS	H222+H229	Extremely flammable aerosol. Pressurized container: may burst if heated.
	H304	May be fatal if swallowed and enters airways.
	H315	Causes skin irritation.
	H317	May cause an allergic skin reaction.
	H336	May cause drowsiness or dizziness
	H340	May cause genetic defects.
	H350	May cause cancer.
	H361	Suspected of damaging fertility or the unborn child.
	H400	Very toxic to aquatic life.
	H410	Very toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS	P102	Keep out of reach of children.
	P103	Read label before use.
	P202	Do not handle until all safety precautions have been read and understood.
	P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
	P211	Do not spray on an open flame or other ignition source.
	P251	Do not pierce or burn even after use.
	P261	Avoid breathing mist/vapours/spray.
	P264	Wash hands thoroughly after handling.
	P271	Use only outdoors or in a well-ventilated area.
	P273	Avoid release to the environment.
	P280	Wear protective gloves.
PRECAUTIONARY RESPONSE STATEMENTS	P301+P310	IF SWALLOWED: Immediately call a POISON CENTER.
	P302+P352	IF ON SKIN: Wash with plenty of water.
	P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
	P308+P313	IF exposed or concerned: Get medical advice.
	P312	Call a doctor if you feel unwell.
	P321	Specific treatment: See First Aid instructions on this label.
	P331	Do NOT induce vomiting.
	P333+P313	If skin irritation or rash occurs: Get medical advice
	P362+P364	Take off contaminated clothing and wash before reuse.
	P391	Collect spillage.
PRECAUTIONARY STORAGE STATEMENTS	P403+P233	Store in a well-ventilated place. Keep container tightly closed.
	P405	Store locked up.
	P410+P412	Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F
PRECAUTIONARY DISPOSAL STATEMENTS	P501	Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

3. HAZARDS IDENTIFICATION COMPOSITION OF INGREDIENTS

Ingredient	Weight %	CAS No.
NAPTHA PETROLEUM, ISOPARAFFIN, HYDROTREATED	<20	64742-48-9
CYPERMETHRIN	<1	52315-07-8
IMIPROTHRIN	<1	72963-72-5
HYDROCARBON PROPELLANT	<75	68476-85-7

4. FIRST AID MEASURES

Eye Contact

If aerosols come in contact with the eyes:
Immediately hold the eyelids apart and flush the eye continuously for at least 15 minutes with fresh running water.
Ensure complete irrigation of the eye and keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
Transport to hospital or doctor without delay.
Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

Inhalation

If aerosols, fumes, or combustion products are inhaled:
Remove to fresh air.
Lay patient down. Keep warm and rested.
Prostheses such as false teeth which may block airway, should be removed, where possible, prior to initiating first aid procedures.
If breathing is shallow or has stopped, ensure clear airway, and apply resuscitation, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.
Transport to hospital, or doctor.

Skin

If solids or aerosol mists are deposited upon the skin:
Flush skin and hair with running water (and soap if available).
Remove any adhering solids with industrial skin cleansing cream.
DO NOT use solvents.
Seek medical attention in the event of irritation.

Ingestion

Avoid giving milk or oils.
Avoid giving alcohol.
Not considered a normal route of entry.
If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.

Indication of any immediate medical attention and special treatment needed
Treat symptomatically

First Aid Facilities

Eye wash facilities should be provided.

5. FIRE FIGHTING MEASURES

Extinguishing media

Small Fire

Water spray, dry chemical, or CO_2.

Large Fire

Water spray or fog.

Special hazards arising from the substrate or mixture

Fire Incompatibility

Avoid contamination with oxidising agents i.e., nitrates. Oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result.

Advice to Firefighters

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 ºC.
DO NOT approach containers suspected to be hot.
Cool fire exposed containers with water spray from a protected location.
If safe to do so, remove containers from path of fire.

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 water fog to cool intact containers and nearby storage areas.
Heating may cause expansion or decomposition with violent container rupture.
Aerosol cans may explode on exposure to naked flames.
Heating may cause expansion or decomposition with violent container rupture.
Aerosol cans may explode on exposure to naked flames.

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

Occupational Exposure Banding

INGREDIENT DATA

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
Cypermethrin	E	≤ 0.01 mg/m3

Notes: Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of

exposure concentrations that are expected to protect worker health.

Ventilation

DO NOT directly inhale concentrated vapours. Use in well-ventilated areas. Mechanical extraction ventilation is recommended for poorly ventilated area. 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.

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	AEROSOL.	**Vapour Density**	> 1 (Air = 1)
Colour	CLEAR	**Upper Explosion Limit**	NO DATA AVAILABLE
Odour	SLIGHT, ETHER-LIKE ODOUR	**Lower Explosion Limit**	NO DATA AVAILABLE
pH	7.0	**Solubility**	SOLUBLE IN WATER
Melting Point	NO DATA AVAILABLE	**Specific Gravity @ 25°C**	0.90 g/mL – 1000 g/mL
Boiling Point	NO DATA AVAILABLE	**Kinematic Viscosity**	NO DATA AVAILABLE
Flash Point	< 20 °C (PROPELLANT)	**Auto-ignition Temperature**	NO DATA AVAILABLE
Flammability	NO DATA AVAILABLE	**Decomposition Temperature**	NO DATA AVAILABLE
Vapour Pressure	NO DATA AVAILABLE	**Partition Coefficient**	NO DATA 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), heat and ignition sources.

Decomposition Products

May evolve toxic gases (carbon oxides, hydrocarbons) when heated to decomposition temperatures.

11. TOXICOLOGICAL INFORMATION

Health Hazard Summary

General population. The exposure of the general population is expected to be low and is not likely to present a hazard when it is used as recommended.

Asphyxiant narcotic. This product may only present a hazard with direct eye contact, prolonged and repeated skin contact or with vapour/gas inhalation at high levels.

Toxicity (Oral)

ACUTE (Product Specific Information:
Oral Toxicity LD_{50} (Rat) > 5000 mg/kg, IV EPA Tox Category
Dermal Toxicity LD_{50} (Rabbit): >2,000 mg/kg III EPA Tox Category
Inhalation Toxicity LC_{50} (Rat): > 4.84 mg/L IV EPA Tox Category
Eye Irritation (Rabbit): Minimal irritant III EPA Tox Category
Skin Irritation (Rabbit): Minimal irritant Tox Category
Skin Sensitization (guinea pig): **Non-sensitizer**

Eye

Low irritant. Contact may result in lacrimation, pain, redness, and conjunctivitis. Prolonged contact may result in corneal burns, with possible permanent damage.
Direct contact with the eye may not cause irritation because of the extreme volatility of the gas; however concentrated atmospheres may produce irritation after brief exposures.

Inhalation

Low to moderate 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.
Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by narcosis, reduced alertness, loss of reflexes, lack of coordination and vertigo.
Inhalation of aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual.
Material is highly volatile and may quickly for a concentrated atmosphere in confined or unventilated areas. The vapour may displace and replace air in breathing zone, acting as a simple asphyxiant. This may happen with little warning of overexposure.
WARNING: Intentional misuse by concentrating/inhaling contents may be lethal.

Skin

Low irritant. Prolonged contact may result in irritation, redness, rash, dermatitis, and sensitisation.

Ingestion

Exposure considered unlikely, due to product form as an aerosol. Under normal conditions of use, ingestion is considered a highly unlikely, exposure route.

	TOXICITY	**IRRITATION**
MAC Slay MAX Insecticide	Not Available	Not Available
naptha petroleum, isoparaffin, hydrotreated	**TOXICITY** Dermal (rabbit LD_{50}:.1900 mg/kg [1] Inhalation (Rat) LC_{50}; >4.42 mg/L4h [1] Oral (Rat) LD_{50}; >4500 mg/kg [1]	**IRRITATION** Eye: no adverse effect observed (not irritating) [1] Skin: adverse effect observed (irritating) [1]
cypermethrin	**TOXICITY** Dermal (Rat) LD_{50}: >1600 mg/kg [2] Inhalation (Rat) LC_{50}; 7.889 mg/L4h [2] Oral (Mouse) LD_{50}; 24.57 mg/kg [2]	**IRRITATION** Eye (Rabbit): mild* Skin (Rabbit): non-irritating*
imiprothrin	**TOXICITY** Dermal (Rat) LD_{50}: 2000 mg/kg [2]	**IRRITATION** Eye (Rabbit): non-irritating*

	Oral (Rat) LD_{50}; 900 mg/kg [2]	Eye (Rabbit): non-irritating* Skin (Rabbit): non-irritating* Skin (Rabbit): non-irritating*
hydrocarbon propellant	**TOXICITY** Inhalation (Rat) LC_{50}; 658 mgL4h [2]	**IRRITATION** Not Available

12. ECOLOGICAL INFORMATION

	Endpoint	Test Duration (hr)	Species	Value	Source
MAC Slay MAX Cockroach & Crawling Insect Insecticide	Not Available	Not Available	Not Available	Not Available	Not Available
	Endpoint	**Test Duration (hr)**	**Species**	**Value**	**Source**
naptha petroleum, isoparaffin, hydrotreated	$EC_{50}(EC_x)$	96h	Algae or other aquatic plants	64mg/L	2
	EC_{50}	96h	Algae or other aquatic plants	64mg/L	2
	Endpoint	**Test Duration (hr)**	**Species**	**Value**	**Source**
cypermethrin	NOEC(EC_x)	504h	Crustacea	<0.001 mg/L	4
	EC_{50}	72h	Algae or other aquatic plants	120.42mg/L	4
	EC_{50}	48h	Crustacea	<0.001mg/L	4
	LC_{50}	96h	Fish	<0.001mg/L	4
	EC_{50}	96h	Algae or other aquatic plants	112.45mg/L	4
	Endpoint	**Test Duration (hr)**	**Species**	**Value**	**Source**
imiprothrin	$EC_{50}(EC_x)$	1h	Crustacea	0.051mg/L	Not Available
	EC_{50}	72h	Algae or other aquatic plants	3.1mg/L	2
	EC_{50}	48h	Crustacea	0.03-0.082mg/L	4
	LC_{50}	96h	Fish	0.021-0.062mg/L	4
	Endpoint	**Test Duration (hr)**	**Species**	**Value**	**Source**
hydrocarbon propellant	$EC_{50}(EC_x)$	96h	Algae or other aquatic plants	7.71mg/L	2
	LC_{50}	96h	Fish	24.11mg/L	2
	EC_{50}	96h	Algae or other aquatic plants	7.71mg/L	2
	$EC_{50}(EC_x)$	96h	Algae or other aquatic plants	7.71mg/L	2
	LC_{50}	96h	Fish	24.11mg/L	2
	EC_{50}		Algae or other aquatic Plants	7.71mg/L	2

Legend Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances – Ecotoxicological Information – Aquatic Toxicity 4. US EPA Ecotox Database – Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) – Bioconcentration Data 7. METI (Japan) – Bioconcentration Data 8. Vendor Data

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
DO NOT discharge into sewer or waterways.

Persistence and Degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
cypermethrin	HIGH	HIGH

Bioaccumulative potential

Ingredient	Bioaccumulation
cypermethrin	HIGH ($LogK_{OW}$ = 6.3752)

Mobility in Soil

Ingredient	Mobility
cypermethrin	LOW (K_{OC} = 108000)

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 DANGEROUS GOODS FOR TRANSPORT BY THE CRITERIA OF NZS5433:2020.
CLASSIFIED AS A MARINE POLLUTANT IMDG REGULATIONS

	Shipping Name	UN	Packing Group	DG Class	Subsidiary Risk(s)
Land	AEROSOLS, flammable	1950	None Allocated	2.1	None Allocated
Sea	AEROSOLS, flammable	1950	None Allocated	2.1	None Allocated
Air	AEROSOLS, flammable	1950	None Allocated	2.1	None Allocated

15. REGULATORY INFORMATION

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

naptha petroleum, isoparaffin, hydrotreated is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) -Hazardous Chemicals
Australian Inventory of Industrial Chemicals (AIIC)
Chemical Footprint Project -Chemicals of High Concern List
International Agency for Research on Cancer (IARC) – Agents Classified by the IARC Monographs

cypermethrin is found on the following regulatory lists

Australia Chemicals with non-industrial uses removed from the Australian Inventory of Chemical Substances (old inventory)
Australia Hazardous Chemical Information System (HCIS) – Hazardous Chemicals
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) – Schedule 2
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - 5
Australia Standard Uniform Scheduling of Medicines and Poisons (SUSMP) – Schedule 6
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) – Schedule 7
International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

imiprothrin is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) – Hazardous Chemicals
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) – Schedule 5
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) – Schedule 6

hydrocarbon propellant is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) – Hazardous Chemicals
Australian Inventory of Industrial Chemicals (AIIC)
Chemical Footprint Project -Chemicals of High Concern List

National Inventory Status

Australia – AIIC / Australia Non-Industrial Use	No (imiprothrin)
Canada – DSL	No (cypermethrin; imiprothrin)
Canada -NDSL	No (naptha petroleum, isoparaffin, hydrotreated; cypermethrin; imiprothrin; hydrocarbon propellant
China – IECSC	No (imiprothrin)
Europe – EINEC / ELINCS / NLP	No (imiprothrin)
Japan – ENCS	No (cypermethrin; imiprothrin)
Korea - KECI	No (imiprothrin)
New Zealand - NZIoC	Yes
Philippines - PICCS	No (imiprothrin)
USA - TSCA	No (cypermethrin; imiprothrin)
Taiwan - TCSI	Yes
Mexico - INSQ	Yes
Vietnam - NCI	Yes

Russia - FBEPH	No (imiprothrin)
Legend	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.
Poison Schedule	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).
AICS	All chemicals listed on the Australian Inventory of Chemical Substances (AICS).
MPI	None Allocated
AsureQuality	None Allocated
NZEPA	New Zealand Approval HSR002515

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.

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 best practice to avoid exposure is to use engineering controls, such as adequate ventilation, rather than the use of respirators (which should be limited).
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.

Abbreviations

mg/kg – milligrams per kilogram
mg/m^3 – milligrams per cubic
metre mg/L – milligrams per Litre
ppb – Parts Per Billion
NOEC – No Observed Effect Concentration
NOAEL – No Observed Adverse Effect Level
LD_{50} – Dosage that is lethal to 50% of the test population
LC_{50} – Concentration that is lethal to 50%50% of the test population
TWA – Time Weighted Average
CAS# – Chemical Abstract Service number - uniquely identifies chemical compounds.
NZEPA – New Zealand Environmental Protection Authority
MPI – New Zealand Ministry of Primary Industries
NZIOC – New Zealand Inventory of Chemicals
WES – Workplace Exposure Standard

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 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.

Report Status

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.
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.