SECTION 1 IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product (material) name:	Pharmachemical Maldison 50 Insecticide
Other names:	Not Applicable
Recommended use:	Insecticide for the control of lice, poultry mites, lice and fowl tick, dog fleas, brown dog tick and sarcoptic mange.
Supplier Details:	Pharmachem Unit 6, 70 Fison Ave West Eagle Farm QLD 4009 Telephone: (07) 3868 0333 Facsimile: (07) 3868 0344
Contact Person:	Mr Gray Boston
Emergency Telephone:	(07) 3630 1654

SECTION 2 HAZARDS IDENTIFICATION

This product is dangerous goods under the Australian Dangerous Goods (ADG) Code and is classified as hazardous according to the classification criteria of NOHSC:1008(2004), Approved Criteria For Classifying Hazardous Substances and the National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC:2011(2003)]:

Health Effects:

Harmful:	Xn	
Risk phrase(s):	R22	Harmful if swallowed
Safety Phrases:	S2	Keep out of reach of children
	S13	Keep away from food, drink and animal feeding stuffs
	S24	Avoid contact with skin
	S25	Avoid contact with eyes
	S35	This material and its container must be disposed of in a safe way
	S36	Wear suitable protective clothing
	S37	Wear suitable gloves
	S46	If swallowed, seek medical advice immediately and show this container or label
	S49	Keep only in original container
	S57	Use appropriate containment to avoid environmental contamination

Other Health Effects:	Maldison is a cholinesterase inhibitor
Acute Over Exposure:	Headache and nausea, due to solvent and salivation diarrhoea, twitching, vomiting and convulsions from active ingredient.
Chronic Effects:	Repeated minor exposure may have a cumulative poisoning effect.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	Cas No.	Proportion % W/V
Maldison	121-75-5	50
High boiling aromatic solvent	Not applicable	30-50
Proprietary surfactant mix:	Not applicable	QS

SECTION 4 FIRST AID MEASURES

The following First Aid directions have been set by the Office of Chemical Safety and Environmental Health (OCSEH) of the Commonwealth Department of Health and Aging:

If swallowed, splashed on skin or in eyes, or inhaled, contact a Poisons Information Centre. Phone Australia 131 126 or a doctor at once. Remove any contaminated clothing and wash skin thoroughly. If swallowed, activated charcoal may be advised. Give atropine if instructed. (*FAISD Handbook, Handbook of First Aid Instructions, Safety Directions, Warning Statements, and General Safety Precautions for, Agricultural and Veterinary Chemicals)*

The product may cause temporary irritation if in eyes. Irrigate eyes for 15 minutes with copious quantities of water with eyelids held open as a precaution if eye contact occurs.

First Aid Facilities:	Obtain an emergency supply of Atropine tablets (0.6 mg) Eyewash facility

SECTION 5 FIRE FIGHTING MEASURES

Suitable extinguishing media:	Water fog, dry chemical, foam or carbon dioxide.
Hazards from combustion products:	Toxic gases of hydrogen chloride, phosgene and carbon monoxide may be evolved if involved in fires or exposed to extreme heat. Stay upwind.
Special protective precautions and equipment for fire fighters:	Self-contained breathing apparatus may be required in confined areas.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Emergency procedures:	Contain spills and absorb with sand, vermiculite or proprietary absorbent.
Methods and materials for containment and clean up:	Prevent from entering drains, waterways or sewers. Collect absorbed material in sealed open top containers for disposal.

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling:
The following Safety Directions have been set for this product by the Office of Chemical Safety and Environmental Health (OCSEH) of the Commonwealth Department of Health and Aging:

Poisonous if absorbed by skin contact, inhaled or swallowed. May irritate the eyes and skin. Repeated minor exposure may have a cumulative poisoning effect. Avoid contact with eyes and skin. Do not inhale spray mist. When opening the container and preparing the spray, wear cotton overalls buttoned to the neck and wrist, washable hat and elbow-length P.V.C gloves. When using in enclosed areas wear a face shield. If product is on skin, immediately wash area with soap and water. After use and before eating drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves, face shield and contaminated clothing.

Conditions for safe storage, including any incompatibilities:

Store below 30ºC (Room Temperature) in the closed original container away from children, animals, food, feedstuffs, seed and fertilisers. Do not store in direct sunlight.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

National exposure standards

For Maldison:	10mg/m^3 (TWA) skin
For Solvent:	The supplier recommends an occupational exposure limit of 100ppm, TWA as total hydrocarbon
Engineering controls:	Natural ventilation only except in confined spaces where a local exhaust should be provided

Personal protective equipment:

When opening the container of concentrate and preparing the spray, wear cotton overalls buttoned to the neck and wrist, washable hat and elbow-length PVC gloves. When using in an enclosed area wear face shield. After each day's use, wash gloves, face shield and contaminated clothing.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear,amber liquid
Odour:	Characteristic odour
Vapour pressure:	5-3 mPa for Maldison @ 30°C
Vapour density:	>1
Boiling point/range:	183-210°C for solvent
Freezing/melting point (specify which):	<0°C
Specific gravity or density:	1.072
Flash point:	64°C actual - or 66°C for solvent

SECTION 10 STABILITY AND REACTIVITY

Chemical stability:	Stable
Conditions to avoid:	The material will decompose non-violently when exposed to strong acids or alkalis or extreme heat.
Incompatible materials:	Avoid oxidising materials such as chlorine or inorganic peroxides.
Hazardous decomposition products:	Oxides of carbon and sulphur
Hazardous reactions:	Hazardous polymerisation will not occur

SECTION 11 TOXICOLOGICAL INFORMATION

Health effects from the likely routes of exposure:

Toxicity To Mammals (Maldison):

Acute oral LD_{50}	Rats	1375-2800 mg/kg *
	Mice	775-3321 mg/kg *
	Cattle	500 mg/kg
Acute dermal LD_{50}	Rabbits	4100 mg/kg
Acute dermal LD_{50}	Rats	>2000 mg/kg
Inhalation LC_{50}	Rats	>5.2 mg/L (4 hr)

* Variations due to purity of substance and carrier used to contain the substance when dosing.

The Australian Acceptable Daily Intake (ADI) for Maldison for a human is 0.02 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 0.26 mg/kg/day, the level

determined to show no effects during long term exposure for the most sensitive indicators and the most sensitive species.

SECTION 12 ECOLOGICAL INFORMATION

Ecotoxicity

Fish:	Toxic to fish (LC_{50} for bluegill sunfish: 0.1 mg/L)
Bees:	Toxic to bees
Birds:	Moderately toxic to birds (Some acute oral LD_{50} values are: mallards, 1485 mg/kg; pheasants, 167 mg/kg; blackbirds and starlings, over 100 mg/kg; and chickens, 525 mg/kg
Aquatic invertebrates:	Highly toxic to aquatic invertebrates
Aquatic stages of amphibians:	Highly toxic
Environmental precautions:	Do not contaminate dams, rivers or streams with pesticide or used container.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal methods for product and containers:
Do not prepare more spray solution than is required for the specific job for which it is prepared.
If unwanted spray solution remains after a spraying and it cannot be used elsewhere for another approved purpose, it should be disposed of in a local authority approved landfill or buried as per used containers below if no landfill is available. If unwanted concentrate needs to be disposed of, it should be taken to an approved local authority landfill. Where no approved local authority landfill is available, dilute the product to minimum spraying strength and dispose of as for 5L containers.
Product which has been contained and retrieved from spillages should be disposed of in an approved local authority landfill or as indicated above if no approved local authority landfill is available. Do not wash spilled material into sewers, drains or other waterways.
[For 5L containers] Do not use container for any other purpose. Containers should be triple rinsed with water immediately when empty, adding rinse to the spray. Crush empty containers after piercing top, sides and bottom and dispose of by burying under 500 mm of soil where contamination of water sources will not occur. Addition of lime to contaminated soils will increase the rate of Maldison destruction.
[For 500 mL containers] Wrap empty container in paper and place in garbage.

Special precautions for landfill or incineration:
Consult your local government authority before disposing of this product. Do not burn product or containers. Observe precautions applicable for storage and clean up of accidental spills.

SECTION 14 TRANSPORT INFORMATION

Considered dangerous goods for transport under The Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code) and IATA Dangerous Goods Regulations

UN Number:	3082
UN Proper Shipping Name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE LIQUID, N.O.S. (MALDISON)
Class and subsidiary risk Class:	9
Packing Group Packaging Group:	III
Hazchem Code:	2X

SECTION 15 REGULATORY INFORMATION

This product has been registered by the Australian Pesticides and Veterinary Medicines Authority (APVMA). In granting registration to any product, the APVMA has exercised its legislative responsibility to ensure that the product is suitably formulated and properly labelled and, when used according to instructions is:

- safe to the host, the user, consumers and the environment;
- efficacious (that is, the product does the job it claims it shall do); and
- not unduly prejudicial to trade.

The APVMA uses the services of a number of Australian and State government agencies as advisers to help with some of these evaluations of applications for registration of agricultural and veterinary chemical products. These include:

- the Office of Chemical Safety and Environmental Health (OCSEH) of the Commonwealth Department of Health and Ageing which:
  - evaluates and reports on toxicology and metabolism studies; proposes first aid and safety directions; determines poison schedule classifications; and establishes acceptable daily intakes (ADIs) and acute reference doses (ARfD); and
  - evaluates the occupational health and safety aspects of an application and recommends safety directions and occupational controls on use and advises on a Material Safety Data Sheet (MSDS);
- the Commonwealth Department of the Environment and Heritage (DEH) which evaluates environmental data and recommends appropriate use controls and instructions for the product that will protect the environment; and
- State and Territory departments responsible for agricultural and primary industries which evaluate and reports on efficacy and target crop or animal safety data for new agricultural chemicals and new uses of registered products. In some cases the APVMA contracts this work out to other agencies such as universities, the CSIRO or to other experts.

Although all ingredients appear in the Australian Inventory of Chemical Substances (AICS), they have not been assessed by NICNAS (National Industrial Chemicals Notification and Assessment Scheme)

Maldison as presented in this context is listed in Schedule 6 of Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

SECTION 16 OTHER INFORMATION

MSDS version:	2
Date of Revision:	March 2011
Update of sections:	2, 3, 4, 7, 10, 15, 16

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B/Hrs Phone (07) 3868 0333 A/Hrs (07) 3630 1654

References:

1. FAISD Handbook, Handbook of First Aid Instructions, Safety Directions, Warning Statements, and General Safety Precautions for, Agricultural and Veterinary Chemicals, (as updated)
2. Approved Criteria For Classifying Hazardous Substances, NOHSC:1008 (2004)
3. National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC:2011 (2003)]
4. AICS (Australian Inventory of Chemical Substances), Safework Australia
5. APVMA Manual of Requirements and Guidelines for Agricultural Chemicals, Version 4.1, (as updated)
6. ADI [Acceptable Daily Intake] List, Commonwealth Department of Health & Aged Care, TGA, (as updated)

7. The Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code) 7th Edition
8. The Poisons Standard (as updated), National Drugs and Poisons Schedule Committee
9. Hazardous Substances Information System, Safework Australia (as updated)