MATERIAL SAFETY DATA SHEET

eChem (Australia) Pty Ltd
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A.C.N. 089 133 095

Issued: July 2013

Emergency Contact: 1800 033 111

SECTION 1 IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: **eChem Difen 500 SC Miticide/Insecticide**

Full Product Name: eChem Difen 500 SC Miticide/Insecticide.
Other Names: Diafenthiuron. Group 12B Insecticide.
Use: A liquid agricultural Miticide/Insecticide.
Company: eChem (Australia) Pty Ltd
Address: 419 Frome Street, Moree NSW 2400
ACN/ABN: 089 133 095
Telephone Number: 02 6750 8019 **Fax Number:** 02 6752 3123
Emergency Contact : 1800 033 111

SECTION 2 HAZARDS IDENTIFICATION

Classified as hazardous according to criteria of Safe Work Australia.
Not classified as a Dangerous Good according to the ADG Code

Risk Phrases:	R22	Harmful if swallowed.
	R43	May cause sensitization by skin contact.
Safety Phrases:	S2	Keep out of reach of children.
	S13	Keep away from food, drink and animal feeding stuffs.
	S24/25	Avoid contact with skin and eyes.
	S36/37/39	Wear suitable protective clothing, gloves and eye/face protection.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients:

CHEMICAL	***CAS NUMBER***	***PROPORTION***
Diafenthiuron	80060-09-9	500 g/L
1,2-propanediol	57-55-6	< 5%
1,2-benzisothiazolin-3-one	2634-33-5	< 1%
Other ingredients (including water) determined not to be hazardous		Balance

SECTION 4 FIRST AID MEASURES

FIRST AID

Ingestion: If swallowed do NOT induce vomiting. Give a glass of water. Rinse mouth thoroughly with water. If poisoning occurs, contact a Doctor or Poisons Information Centre. Phone 131 126.

Eye contact: Immediately hold eyes open and flood with clean water till chemical is removed. Ensure irrigation under eyelids by occasionally lifting them. Do not try to remove contact lenses unless trained. If irritation persists, seek medical advice.

SECTION 4 FIRST AID MEASURES (Continued)

Skin contact: Remove contaminated clothing. Wash skin with soap and plenty of water. If skin is irritated, seek medical advice. Wash contaminated clothing before re-use

Inhalation: Remove to fresh air and observe until recovered. If effects persist, seek medical advice. Over-exposure by inhalation is unlikely.

Advice to Doctor:
Treat symptomatically. Avoid giving alcohol - may cause vomiting and shock.

SECTION 5 FIRE FIGHTING MEASURES

Specific Hazard: Generally considered a low risk due to the water content, but once the water has evaporated the product is combustible.

Extinguishing media: CO_2, alcohol-resistant foam or dry chemical. Soft stream water fog or fine water spray if no alternatives. Contain all runoff.

Hazards from combustion products: Product is likely to decompose after heating to dryness and continued strong heating and will emit toxic fumes. As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion. Firefighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to vapour or smoke.

Precautions for fire-fighters and special protective equipment: Isolate fire area. Evacuate downwind residents. Wear full protective clothing and self contained breathing apparatus. Do not breathe smoke or vapours generated.

SECTION 6 ACCIDENTIAL RELEASE MEASURES

Emergence procedures / Material and methods for containment and cleanup procedures:
Accidental release: In the event of a major spill, prevent spillage from entering drains or water courses. As a minimum, wear cotton overalls buttoned to the neck and wrist, a washable hat and elbow length PVC gloves. Eye/face protective equipment should comprise, as a minimum, protective glasses and, preferably, goggles.

In the case of spillage, stop leak if safe to do so, and contain spill. Absorb spilled material with absorbent material such as sand, clay or cat litter and dispose of waste as indicated below or according to the Australian Standard 2507 - Storage and Handling of Pesticides. Wear prescribed protective clothing and equipment. Keep out animals and unprotected persons.

After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. Thoroughly launder protective clothing before storage or re-use.

SECTION 7 HANDLING AND STORAGE

Precautions for Safe Handling: No smoking, eating or drinking should be allowed where material is used or stored. Will irritate the eyes and skin. Avoid contact with eyes and skin. DO NOT inhale mist. When opening the container, preparing the spray and using the prepared spray wear cotton overalls buttoned to the neck and wrist, a washable hat and elbow length PVC gloves. Wash hands after use. After each day's use, wash gloves and contaminated clothing.

Conditions for Safe Storage: Not classified as a Dangerous Good by the ADG. This product is a Schedule 5 Poison (S5) and must be stored, transported and sold in accordance with the relevant Health Department regulations. Store in the closed, original container in a well ventilated area away from children, animals, food, feedstuffs, seed and fertilisers. Do not store for prolonged periods in direct sunlight. This product is classified as a C1 (Combustible Liquid) for the purpose of storage and handling, in accordance with the requirements of AS 1940.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines:
Exposure guidelines have not been established for this product by Safe Work Australia, however the following guideline has been established for one of the ingredients in this product:

Atmospheric Contaminant	Exposure Standard (TWA)	STEL (mg/m³)
1,2-propanediol	474 mg/m³ (150 ppm)	Not set

TWA = Time-weight Average STEL = Short Term Exposure Level

Biological Limit Values:
No biological limit allocated.

Engineering controls:
Keep containers closed when not in use. No special engineering controls are required, however make sure that the work environment remains clean and that vapours and mists are minimised.

Personal Protective equipment (PPE):
Skin: When opening the container, preparing the spray and using the prepared spray wear cotton overalls buttoned to the neck and wrist, a washable hat and elbow length PVC gloves. Wash hands after use. After each day's use, wash gloves and contaminated clothing.

Respiratory Protection: Generally not required. Use of a respirator may be required in certain circumstances to protect from inhalation of spray mist.

After Use: Wash hands after use. After each day's use, wash gloves and contaminated clothing. Shower at the end of each work day.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	White to Off-white liquid suspension.
Odour:	Minimal odour.
Boiling point:	> 90°C.
Freezing point:	No data available.
Specific Gravity:	Approximately 1.1 at 20°C.
Solubility in Water:	Suspends in water.
pH:	6.5 – 8.5.
Flash Point:	> 100°C.
Vapour pressure:	No data available.
Corrosive hazard:	Not corrosive.
Explosive properties:	Not explosive.
Oxidizing properties:	Not an oxidiser.
Poison Schedule:	This is a schedule 5 (S5) poison.

SECTION 10 STABILITY AND REACTIVITY

Chemical Stability: Product is considered stable in ambient conditions for a period of at least 2 years after manufacture.

Conditions to avoid: No known.

Incompatible materials: No known incompatibilities.

Hazardous decomposition products: This product is likely to decompose only after heating to dryness, followed by further strong heating. Hazardous decomposition products include toxic and noxious fumes.

Hazardous reactions: none known. Polymerisation is unlikely.

SECTION 11 TOXICOLOGICAL INFORMATION

No specific data is available for this product as no toxicity tests have been conducted on this product. Information presented is our best judgement based on similar products and/or individual components. As with all products for which limited data is available, caution must be exercised through the use of protective equipment and handling procedures to minimise exposure.

SECTION 11 TOXICOLOGICAL INFORMATION (Continued)

Potential Health Effects:

ACUTE EFFECTS

Swallowed: Acute oral LD_{50} (rat) 1950 mg/kg (similar formulation), harmful if swallowed.

Eye: This product is not irritating to the eyes.

Skin: This product is not irritating to the skin and is not a sensitiser. Low acute dermal toxicity. Acute dermal LD_{50} (rabbit) > 2000 mg/kg.

Inhaled: As the generation of a respirable aerosol was not possible for laboratory tests it is not a likely route of exposure. Low acute inhalation toxicity.

Long Term Exposure:
Chronic toxicity:
In laboratory tests, no evidence was obtained of mutagenic, teratogenic neurotoxic or reproductive effects. In animal studies (rat, mouse, dog), prolonged exposure to diafenthiuron has been shown to produce lung damage. In mice, chronic oral administration has produced lung tumours at high dose levels. No adverse effects in humans are expected at levels below the occupational exposure limit and when the product is handled normally.

SECTION 12 ECOLOGICAL INFORMATION

Environmental Toxicology: No data is available on this product. In 8 day feeding studies with birds, Diafenthiuron was found to have low toxicity with LC_{50} values > 1500 mg/kg in bobwhite and mallard ducks. Very highly toxic to fish. LC_{50} (96hr) = 0.0007 mg/kg (rainbow trout). Toxic to aquatic organisms EC_{50} (48 hr) = 0.5 mg/kg daphnia magna. Diafenthiuron was found to affect the foraging and homing behaviour of bees at sublethal concentrations. Acute LD_{50} 1.5 µg/bee (honey bees).

Environmental Fate: Diafenthiuron is not persistent in soil or water. It is strongly absorbed on soil and degradation is rapid with half-life varying from < 1 hour to 1.4 days. It has the potential to bioaccumulate but due to the very rapid degradation in the field there is a very low hazard to aquatic species.

SECTION 13 DISPOSAL CONSIDERATIONS

Spills and Disposal: Persons involved in cleanup require adequate skin protection - see section 8. In case of spillage, contain and absorb spilled material with absorbent material such as clay, sand or cat litter and dispose of waste as indicated below or in accordance to the Australian Standard 2507-Storage and Handling of Pesticides. Keep out animals and unprotected persons. Keep material out of streams and sewers. Vacuum, shovel or pump waste into an approved drum. To decontaminate spill area, tools and equipment, wash with detergent and water and add the solution to the drums of wastes already collected and label contents. Dispose of drummed wastes, including decontamination solution in accordance with the requirements of Local or State Waste Management Authorities.

Disposal of empty containers: Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on-site. If recycling, replace cap and return clean containers to recycler or designated collection point. If an approved waste management facility is not available bury the empty packaging 500 mm below the surface in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots, in compliance with relevant Local, State or Territory government regulations. DO NOT burn empty containers or product.

SECTION 14 TRANSPORT INFORMATION

Road & Rail Transport: This product is not classified as a Dangerous Goods under the Australian Code for the Transport of Dangerous Goods by Road and Rail in containers less than 3000 litres. Bulk shipments should use UN 3082, as per below. This product is a Schedule 5 Poison (S5) and must be stored, transported and sold in accordance with the relevant Health Department regulations.

SECTION 14 TRANSPORT INFORMATION (Continued)

Marine and Air Transport: This product is a Marine Pollutant according to International Maritime Dangerous Goods (IMDG) Code and the International Air Transport Association (IATA). If transporting by sea or air the following Dangerous Goods Classification applies:-

UN 3082, Class 9 (Miscellaneous Dangerous Goods), Packing Group III, Proper Shipping Name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Contains 50% Diafenthiuron).

SECTION 15 REGULATORY INFORMATION

Under the Standard for Uniform Scheduling of Medicines and Poisons (SUSMP), this product is a schedule 5 poison.
This product is registered under the Agricultural and Veterinary Chemicals Code Act 1994. Product Registration No. 68019.
This product is classified as a Hazardous Substance under the criteria of Safe Work Australia. Xn: Harmful.
This product is not classified as a Dangerous Good according to the ADG Code (7th Ed).
This product is classified as a Dangerous Good according to International Maritime Dangerous Goods (IMDG) Code and the International Air Transport Association (IATA).

Requirements concerning special training:
Check State or Territory regulations that require people who use pesticides in their job or business to have training in the application of the materials.

SECTION 16 OTHER INFORMATION

Issue Date: 10 July 2013. Valid for 5 years. (First issue).

Key to abbreviations and acronyms used in this MSDS:

ADG Code:	Australian Dangerous Goods Code (for the transport of dangerous goods by Road and Rail).
Carcinogen:	An agent which is responsible for the formation of a cancer.
Genotoxic:	Capable of causing damage to genetic material, such as DNA.
NOHSC:	National Occupational Health and Safety Commission.
PPE:	Personal protective equipment.
Teratogen:	An agent capable of causing abnormalities in a developing foetus.
STEL:	Short Term Exposure Limits.
TWA:	The Time Weighted Average airborne concentration over an eight-hour working day, for a five day working week over an entire working life.
Safe Work Australia:	Formally known as Australian Safety & Compensation Council (ASCC) which was formally known as the National Occupational Health & Safety Commission (NOHSC)).

References

1. "Search Hazardous Substances". HSIS Safe Work Australia website. (2013).
2. "Approved Criteria for Classifying Hazardous Substances" 3rd Ed. NOHSC Australia. [NOHSC:1008 (2004)]. October 2004.

This MSDS 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 should read this MSDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.

End MSDS