



Material Safety Data Sheet

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Infosafe No. NU011 Issue Date : May 2004 ISSUED by NUFARM

Product Name : **DIMETHOATE Systemic Insecticide**

Classified as hazardous according to criteria of NOHSC

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY

Product Name DIMETHOATE Systemic Insecticide
Product Code 1070
Product Use For the control of a wide range of pests on fruit, vegetables, pastures, cotton, lucerne, peanuts and ornamentals as per the Directions for Use table.
Company Name NUFARM AUSTRALIA LIMITED. (ABN 80 004 377 780)
Address 103-105 Pipe Road Laverton North
Victoria 3026 Australia
Emergency Tel. 24hr 1800 033 498
Telephone/Telex Number Tel: (03) 9282-1000 Fax: (03) 9282-1001
Product Type Group 1B Insecticide
Other Information This MSDS describes, to the best of our knowledge, the properties of the concentrated product. The physical properties and some of the assessments do not apply to the properties of the product once it has been diluted for application. Acute health effects of the diluted product are likely to be much less severe.

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Characterization Liquid

Ingredients	Name	CAS	Proportion
	Dimethoate	60-51-5	400 g/L
	Liquid Hydrocarbons	64742-94-5	255 g/L
	Cyclohexanone	108-94-1	30-60 %
	Other ingredients (considered non-hazardous)		Balance

Substance Chemical Family Organophosphate

3. HAZARDS IDENTIFICATION

Flammable.
Harmful by inhalation, in contact with skin and if swallowed.
Harmful: may cause lung damage if swallowed.

Other Information Poisons Schedule 6

4. FIRST AID MEASURES

Inhalation Remove patient to fresh air and, if required, give one atropine tablet every five minutes until dryness of the mouth occurs.
Obtain medical assistance.



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Ingestion	<p>Rinse mouth thoroughly with water.</p> <p>If product has been swallowed and symptoms are evident and medical assistance is not immediately available, give one atropine tablet (0.6 mg) every five minutes until dryness of the mouth occurs. Preferably, carry out treatment under the direction of medical advice obtained by phone.</p> <p>Seek medical advice immediately.</p> <p>If swallowed do NOT induce vomiting; seek medical advice immediately and show this container or label or contact the Poisons Information Centre on 13 11 26 (Aust). Make every effort to prevent vomit from entering the lungs by careful placement of the patient.</p> <p>The above first aid instructions are mandated by the Commonwealth Department of Health and Aged Care via the National Drugs and Poisons Schedule. These instructions are suitable for ingestion of spray solution and small amounts of concentrate; however, if SUBSTANTIAL AMOUNTS of the concentrate have been swallowed (more than about one tablespoon) AND if medical assistance is more than 30 minutes away, the induction of vomiting should be CONSIDERED, preferably based on MEDICAL ADVICE if a physician can be contacted by phone. All care must be taken to prevent vomit from being inhaled. Do not give anything by mouth to a semi-conscious or unconscious person.</p>
Skin	<p>If poisoned by skin absorption, remove contaminated clothing, wash skin thoroughly with soap and water and give one atropine tablet every five minutes until dryness of the mouth occurs.</p> <p>Seek medical advice, but only after the exposed skin has been thoroughly washed.</p>
Eye	<p>If in eyes, hold eyelids open and wash with copious amounts of water for at least 15 minutes.</p> <p>Seek medical advice.</p>
First Aid Facilities	<p>If Dimethoate is regularly used, it may be wise to keep a supply of atropine tablets (0.6 mg) (check State Regulations).</p> <p>If poisoning occurs, contact a doctor or Poisons Information Centre on 13 11 26 (Australia).</p>
Advice to Doctor	<p>An anticholinesterase compound.</p> <p>If the material is dissolved in solvents, e.g., petroleum solvents, vomiting may cause pulmonary aspiration. Instead, the stomach should be emptied as soon as possible by careful gastric lavage (using a cuffed endotracheal tube already in place). Artificial respiration should be started at the first sign of respiratory failure. Cautious administration of fluids is advised, as well as general supportive and symptomatic pharmacological treatment and absolute rest. As early as possible, administer 2 mg of atropine sulfate i.v. and 1000-2000 mg of pralidoxime chloride or 250 mg of obidoxime chloride (adult dose) i.v. to patients suffering from severe respiratory difficulties, convulsions, and unconsciousness. Repeated doses of 2 mg of atropine sulfate should be given, as required, based on the respiration, blood pressure, pulse frequency, salivation, and convulsion conditions. The dose and the frequency of atropine varies with each patient, but the patient should remain fully atropinised (signs include dilated pupils, dry mouth, skin flushing). Diazepam should be given in all but the mildest cases in doses of 10 mg, s.c. or i.v., which may be repeated as required. For children, the doses are 0.04-0.08 mg of atropine/kg body weight, 250 mg of pralidoxime chloride per child, or 4-8 mg of obidoxime chloride/kg body weight. Morphine, barbiturates, phenothiazine derivatives, tranquillizers, and all kinds of central stimulants are contraindicated.</p>

5. FIRE FIGHTING MEASURES

Extinguishing Media Water fog, foam, carbon dioxide or dry chemical.



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Hazardous Combustion Products If involved in a fire, it will emit dimethyl sulphide, methyl mercaptans and possibly phosphorus pentoxide.

Emergency Action in case of Fire If exposed to fire, keep container cool by spraying with water.

Protective Equipment Breathable air apparatus may have to be worn if material is involved in fires especially in confined spaces.

Other Information Hazchem code 2W .
Prevent fire water from entering drains or water bodies.

6. ACCIDENTAL RELEASE MEASURES

Spills & Disposal Contain spill and absorb with clay, sand, soil or proprietary absorbent (such as vermiculite).
Collect spilled material and waste in sealable open-top type containers for disposal.
Do NOT flush with water.

Environmental Precautions Contaminated earth (after a spill) can be treated with lime to hasten decomposition of the active ingredient.
At pH9, approximately 50% will decompose in 12 days.

Clean-up Methods - Large Spillages Place damaged containers in recovery bins (if available) and return to manufacturer.

7. HANDLING AND STORAGE

Storage Store in the closed, original container in a dry, cool well ventilated area out of direct sunlight.
Store in a locked enclosure.
Keep container tightly sealed and do not store with seed, fertilisers or foodstuffs.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Exposure Limits No biological exposure limit allocated.
No exposure standard for this product has been set, however, an exposure standard has been set for cyclohexanone at 100 mg/m³.
The manufacturer of the solvent has recommended an occupational exposure limit of 100 mg/m³; 17ppm TWA, as total hydrocarbon.

Respiratory Protection Do not inhale spray mist.

Personal Protective Equipment When opening the container, preparing spray and using the prepared spray wear cotton overalls buttoned to the neck and wrist and a washable hat, elbow-length PVC gloves, goggles, impervious footwear and half piece respirator with combined dust and gas cartridge (canister).
Class A filter cartridge.

Eng. Controls Natural ventilation is sufficient when handling concentrate and preparing spray solution.

Hygiene Measures After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water.
After each day's use, wash contaminated clothing and safety equipment.

Requirements Concerning Special Training NSW regulations require that people who use pesticides in their job or business must have training in the application of the materials. By 1st September, 2005 all users must have received such training.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance Amber liquid

Odour Characteristic odour

Solubility in Water Disperses in water. Not soluble.

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Specific Gravity (H₂O=1)	1.057
Vapour Pressure	0.25 mPa @ 25°C for dimethoate
Surface Tension	9.5 mN/m
Flash Point	52°C
Flammability	Flammable Liquid.
Flammable Limits LEL	1.3% for cyclohexanone
Flammable Limits UEL	9.4% for cyclohexanone
Kinematic Viscosity	4.7 x 10 ⁻⁶ m ² /sec

10. STABILITY AND REACTIVITY

Stability	Stable under normal conditions. Hydrolyses at pH >7.
Hazardous Polymerization	Hazardous polymerisation is not possible.
Materials to Avoid	Avoid contact of the concentrate with strong alkalis and alkaline materials such as lime.
Hazardous Reaction	Keep away from strong oxidising agents.

11. TOXICOLOGICAL INFORMATION

Toxicology Information	No harmful effects are expected if the precautions on the label and this MSDS are followed.
Inhalation	Breathing vapour can result in headaches, dizziness and possible nausea. Breathing in high concentrations can produce central nervous system depression, which can lead to loss of coordination, impaired judgement and if exposure is prolonged, unconsciousness.
Ingestion	The concentrate is harmful if swallowed. Symptoms of overexposure to large quantities of product: nausea, vomiting, abdominal pains, diarrhea, pinpoint pupils, blurred vision, profuse sweating, salivations and muscle twitching. If aspirated into the lung, e.g. from vomiting, the presence of solvent may result in chemical pneumonitis or pulmonary oedema.
Skin	Prolonged contact with the concentrate may result in absorption of dimethoate in harmful amounts. Prolonged contact with the concentrate can cause defatting of the skin and may result in dermatitis.
Eye	The concentrate may cause irritation of the eyes.
Chronic Effects	Regular exposure may result in lowering of cholinesterase activity. Regular exposure may result in effects on the liver and blood.
Acute Toxicity - Oral	LD50 (rat) 250 - 325 mg/kg for dimethoate
Acute Toxicity - Dermal	LD50 (rat) 1550 mg/kg for dimethoate
Acute Toxicity - Inhalation	LC50 (rat) (4hr) >1.6 mg/l for dimethoate
Skin Irritation	Not a skin irritant.
Skin Sensitisation	Product is not a skin sensitiser.



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Other Information The Australian Acceptable Daily Intake (ADI) for dimethoate for a human is 0.02 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 0.2 mg/kg/day, the level determined to show no effects during long term exposure for the most sensitive indicators and the most sensitive species. (Ref: Comm. Dept. of Health and Ageing, 'ADI List', TGA, August 2003).

12. ECOLOGICAL INFORMATION

Other Precautions Do not spray in high winds.
Do not contaminate dams, waterways or sewers with this product.

Acute Toxicity - Fish The following is data for the active ingredient, dimethoate.
LC50 (96 hr) for bluegill sunfish is 6 mg/l.
LC50 (96 hr) for rainbow trout is 6.2 mg/l.

Acute Toxicity - Daphnia EC50 (48hr) is (for dimethoate) 3.3 mg/l.

Acute Toxicity - Other Organisms The following data is for the active ingredient, dimethoate.

Moderately toxic to birds.
LD50 for mallard ducks is 41.7 mg/kg
Bees: Toxic to bees. LD50 0.17 µg/bee.

13. DISPOSAL CONSIDERATIONS

Waste Disposal

Product Disposal On site disposal of the concentrated product is not acceptable.
Ideally, the product should be used for its intended purpose. If there is a need to dispose of the product, approach local authorities who hold periodic collections of unwanted chemicals (ChemCollect).

Container Disposal Do not use this container for any other purpose.
Triple rinse containers, add rinsate to the spray tank, then offer the container for recycling/reconditioning, or puncture top, sides and bottom and dispose of in landfill in accordance with local regulations.
Returnable containers: empty contents fully into application equipment. Replace cap, close all valves and return to the point of supply for refill or storage. If on-site container disposal is necessary, triple rinse empty container with water, add rinsate to the spray tank. Puncture top, sides and bottom, crush and bury in an approved landfill or bury with at least 500 mm of soil cover away from pasture and crop areas, water supplies and houses.
Empty containers and product should not be burnt.

14. TRANSPORT INFORMATION

It is good practice to separate this product from food, food related materials, animal feedstuffs, seed or fertilisers during transport.

U.N. Number 3017

Proper Shipping Name ORGANOPHOSPHORUS PESTICIDES, LIQUID, TOXIC, FLAMMABLE, N.O.S. - (contains Dimethoate and Hydrocarbon solvent)

DG Class 6.1

Sub.Risk 3

Hazchem Code 2W

Packaging Method 3.8.6

Packing Group III

Storage and Transport Considered dangerous for transport by the Australian Code for the Transport of Dangerous Goods by Road and Rail.

EPG Number 6C3

IERG Number 17

15. REGULATORY INFORMATION



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Risk Phrase R10 Flammable.
R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
R65 Harmful: may cause lung damage if swallowed.

Safety Phrase S24/25 Avoid contact with skin and eyes.
S36/37 Wear suitable protective clothing and gloves.

Poisons Schedule S6

Hazard Category Harmful

Packaging & Labelling POISON
KEEP OUT OF REACH OF CHILDREN
READ SAFETY DIRECTIONS BEFORE OPENING OR USING

AICS (Australia) All of the components in this product are listed on the Australian Inventory of Chemical Substances.

National Legislation There is a legislative requirement in most States in Australia for workers to be medically monitored when using organophosphates, by:- 'estimation of red cell and plasma cholinesterase activity towards the end of the day on which organophosphates have been used'.
Ref: Control of Workplace Hazardous Substances, NOHSC:1005.

16. OTHER INFORMATION

Contact Person/Point Normal Hours: Mr Volker Maier Phone: (03) 9282 1000
After Hours: Shift Supervisor Phone: 1800 033 498

Revisions Highlighted The MSDS was reviewed. Minor changes were made to the information. The MSDS is now issued in a 16 header format.
...End Of MSDS...