



Material Safety Data Sheet

CS: 1.4.93

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Infosafe No™ 3NU42	Issue Date :April 2011	ISSUED by CRPCARE
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Product Name **LANNATE® - L Insecticide**

Classified as hazardous

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name LANNATE® - L Insecticide

Product Code 1076

Product Type Group 1A Insecticide

Company Name Crop Care Australasia Pty Ltd (ABN 53 061 362 347)

Address Unit 15/16 Metroplex Avenue Murarrie
Queensland 4172 Australia

Emergency Tel. 1800 033 498 (24hr Australia)

Telephone/Fax Number Tel: +61 7 3909 2000
Fax: +61 7 3909 2010

Recommended Use For the control of certain insect pests of cereals, fruit, legumes, cotton, oilseed crops, tobacco, potatoes, vegetables, pastures, peanuts, ginger, duboisia, and other crops as listed in the Directions for Use table on the label.

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. HAZARDS IDENTIFICATION

Hazard Classification Classified as hazardous
HAZARDOUS SUBSTANCE.
DANGEROUS GOODS.
Hazard classification according to the criteria of NOHSC.
Dangerous goods classification according to the Australia Dangerous Goods Code.

Risk Phrase(s) Classified as hazardous
R11 Highly flammable.
R23/24 Toxic by inhalation and in contact with skin.
R28 Very toxic if swallowed.

Safety Phrase(s) S1/2 Keep locked up and out of reach of children.
S16 Keep away from sources of ignition - No smoking.
S24 Avoid contact with skin.
S36/37 Wear suitable protective clothing and gloves.
S45 In case of accident or if you feel unwell seek medical advice immediately
S7 Keep container tightly closed.

Other Information Poisons Schedule S7 DANGEROUS POISON

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Characterization Liquid

Ingredients	<u>Name</u>	<u>CAS</u>	<u>Proportion</u>
	Methomyl	16752-77-5	225 g/L
	Methanol	67-56-1	472 g/L
	Water and minor components	N/A	10-30 %

Substance Chemical Family Carbamate

4. FIRST AID MEASURES

Inhalation Remove affected person to fresh air until recovered.
If symptoms develop or persist, seek medical advice immediately.

Ingestion Rinse mouth thoroughly with water.
Seek medical advice immediately.

Skin Wash affected areas thoroughly with soap and water.
Remove contaminated clothing and launder before re-use.
All leather items should be discarded.
Seek medical advice, but only after the exposed skin has been thoroughly



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Eye	washed. If in eyes, hold eyelids open and wash with copious amounts of water for at least 15 minutes.
First Aid Facilities	Seek medical advice immediately. If poisoning occurs, contact a doctor or the Poisons Information Centre (Australia) on 13 11 26.
Advice to Doctor	An anticholinesterase compound. General supportive treatment:- Artificial respiration (via a tracheal tube) should be started at the first sign of respiratory failure and maintained for as long as necessary. Atropine:- Atropine should be given, beginning with 1.2 - 2mg iv repeated at 10 to 30 minute intervals. The dose and the frequency of atropine treatment varies from case to case, but should maintain the patient fully atropinized (dilated pupils, dry mouth, skin flushing, etc.). Oxime reactivations:- Although it might be suspected that oxime cholinesterase reactivators would be as helpful in carbamate poisoning as they are in organophosphorous poisoning, this is not the case. There is experimental evidence that the pyridinium oxime 2-PAM is not effective in carbamate poisoning and there is some evidence that it makes poisoning by certain carbamates, including carbaryl, worse. Diazepam:- Diazepam should be included in the therapy of all but the mildest cases. Besides relieving anxiety it appears to counteract some aspects of CNS-derived symptoms that are not affected by atropine. Doses of 10mg sc or iv are appropriate and may be repeated as required. Other centrally acting drugs and drugs that may depress respiration are not usually recommended in the absence of artificial respiration procedures.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media	Water fog, foam, carbon dioxide or dry chemical.
Hazards from Combustion	Avoid using large volumes of water which would spread the product. If involved in a fire, it will emit oxides of carbon, oxides of nitrogen and possibly oxides of sulphur.
Special Protective Equipment for fire fighters	Breathable air apparatus should be worn when fighting a fire in which this product is involved.
Hazchem Code	•2WE
Emergency Action in case of Fire	If exposed to fire, keep container cool by spraying with water.
Other Information	STOP FIRE WATER FROM ENTERING DRAINS OR WATER BODIES.

6. ACCIDENTAL RELEASE MEASURES

Spills & Disposal	Shut off all possible sources of ignition. Keep upwind. 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.
Personal Protection	For appropriate personal protective equipment (PPE), refer Section 8.
Clean-up Methods - Large Spillages	If large liquid spills occur, attempt to recover as much spilt material from sumps and banded areas before absorbing remaining material into vermiculite or other absorbent. To clean and neutralise spill area, tools and equipment, wash with a bleach or caustic/soda ash solution. Absorb as above any excess liquid and add to the drums of waste already collected.
Environmental Precautions	Prevent from entering drains, waterways or sewers.

7. HANDLING AND STORAGE



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Conditions for Safe Storage Store in an area suitable for flammables.
 Store in the closed, original container in a cool, well ventilated area.
 Do not store for prolonged periods in direct sunlight.
 Store in a well ventilated place away from ignition sources.
 Store in a locked enclosure.
 Keep container tightly sealed and do not store with seed, fertilisers or foodstuffs.

Other Information Always read the label and any attached leaflet before use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

National Exposure Standards	Name	STEL		TWA		Footnote
		mg/m3	ppm	mg/m3	ppm	
	Methanol	328	250	262	200	
	Methomyl			2.5		
Other Exposure Information	NOHSC has set the following exposure standard for methanol : TLV (TWA) 262 mg/m3, STEL -, SK. 'SK' notice - absorption through the skin may be a significant source of exposure. The exposure standard is invalidated if such contact should occur. Use with local exhaust ventilation or while wearing appropriate respirator.					
Engineering Controls						
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). If clothing becomes contaminated with product or wet with spray, remove clothing immediately. Re-entry Period - Do not allow entry into treated areas for 24 hours after treatment. When prior entry is necessary, wear all protective clothing and chemical resistant gloves.					
Hygiene Measures	After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water.					
Requirements Concerning Special Training	After each day's use, wash contaminated clothing and safety equipment. 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.					

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	Liquid
Appearance	Blue Liquid
Odour	Sulfur-like odour
Solubility in Water	Solubility of methomyl is 58g/l @ 25°C
Specific Gravity	0.90
pH Value	7 - 7.5 (undiluted)
Vapour Pressure	0.72 mPa (25°C methomyl) 16.96 kPa (25°C methanol)
Volatile Component	~52%
Octanol/Water Partition Coefficient	Kow Log P is 0.093 for methomyl
Flash Point	21°C
Flammability	Highly flammable.
Auto-Ignition Temperature	470°C
Flammable Limits - Lower	6.7% by volume
Flammable Limits - Upper	36.5% by volume



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10. STABILITY AND REACTIVITY

Chemical Stability	Stable under normal conditions.
Incompatible Materials	Avoid contact of the concentrate with strong alkalis and alkaline materials such as lime.
Hazardous Polymerization	Hazardous polymerisation is not possible.

11. TOXICOLOGICAL INFORMATION

Toxicology Information	No harmful effects are expected if the precautions on the label and this MSDS are followed.
Inhalation	May cause irritation to mucous membranes and respiratory tract. Breathing vapour can result in headaches, dizziness and possible nausea. Breathing in high concentrations of vapour can produce central nervous system depression, which can lead to loss of coordination, impaired judgement and if exposure is prolonged, unconsciousness.
Ingestion	Inhalation of sprays or mists may result in effects described under ingestion. The following symptoms, listed in approximate order of appearance, begin within 30-60 minutes and are at a maximum in 2-8 hours: Mild - Anorexia, headache, dizziness, weakness, anxiety, sub-sternal discomfort, tremors of the tongue and eyelids, contraction of the pupil and impairment of visual acuity. Moderate - Nausea, salivation, tearing, abdominal cramps, vomiting, sweating, slow pulse and muscular fasciculations. Severe - Diarrhea, pinpoint and non reactive pupils, respiratory difficulty, pulmonary oedema, cyanosis, loss of sphincter control, convulsions, coma and heart block. Hyperglycemia and possible acute pancreatitis have occurred. (1)
Skin	Prolonged contact of the concentrate with skin will result in absorption of some methomyl and methanol which can be harmful. Symptoms of over exposure may be similar to those described for ingestion. Prolonged contact with the concentrate can cause defatting of the skin and may result in dermatitis.
Eye	Will irritate the eyes. May cause pupil constriction.
Chronic Effects	Regular exposure may result in lowering of cholinesterase activity which will recover within a few days after exposure ceases. Repeated or prolonged exposure to high doses of methanol alone may have serious irreversible effects such as blindness. This effect is not relevant with this product, as ingestion of significant quantities would result in death due to the toxicity of methomyl.
Reproductive Toxicity	Data indicates no reproductive effects.
Mutagenicity	The weight of evidence indicates that methomyl does not present a mutagenic risk.
Carcinogenicity	The weight of the evidence is that methomyl is not carcinogenic.
Acute Toxicity - Oral	LD50 (rat) 30 mg/kg for methomyl For methanol, toxicity values vary widely in the literature, but values are always much higher than methomyl. The toxicity of this product is almost entirely due to the methomyl component.
Acute Toxicity - Dermal	LD50 (rabbit) >2000 mg/kg for methomyl
Acute Toxicity - Inhalation	LC50 (rat) (4hr) 0.3 mg/l for methomyl aerosol
Eye Irritation	The product is an eye irritant.
Skin Irritation	The product is a skin irritant.
Other Information	The Australian Acceptable Daily Intake (ADI) for methomyl for a human is 0.01 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 1.25 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 Office of Chemical Safety, 'ADI List', December 2008).



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12. ECOLOGICAL INFORMATION

Other Precautions Do not spray on vegetation where honeybees are foraging.
Do not contaminate dams, waterways or sewers with this product or the containers which have held this product.

Environ. Protection Marine pollutant.
Spray drift can cause damage, read the label for more information.

Acute Toxicity - Fish The following is data for the active ingredient, methomyl.
LC50 (96hr) for rainbow trout is 3.4 mg/l.
LC50 (96hr) for bluegill sunfish is 0.9 mg/l.
LC50 (48hr) for daphnia is 0.032 mg/l for methomyl.

Acute Toxicity - Daphnia

Acute Toxicity - Other Organisms The following data is for the active ingredient, methomyl.
Bees: Toxic to bees. LD50 0.1 µg/bee.
Birds: Toxic to birds. LD50 for mallard ducks is 15.9 mg/kg

13. DISPOSAL CONSIDERATIONS

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 (ChemClear®).

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.
drumMUSTER is the national program for the collection and recycling of empty, cleaned, non returnable crop production and on-farm animal health chemical containers. If the label on your container carries the drumMUSTER symbol, triple rinse the container, ring your local Council, and offer the container for collection in the program.
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 recycling, replace cap and return clean containers to recycler or designated collection point.
If not recycling, puncture or shred and bury containers in local authority landfill.
If no landfill is available, bury the containers below 500mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots.
Empty containers and product should not be burnt.

14. TRANSPORT INFORMATION

U.N. Number 2758

Proper Shipping Name CARBAMATE PESTICIDE, LIQUID, FLAMMABLE, TOXIC, N.O.S. - flash point less than 23°C (contains Methomyl and Methanol)

DG Class 3

Sub.Risk 6.1

Hazchem Code •2WE

Packaging Method 3.8.3

Packing Group II

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

EPG Number 3A2

IERG Number 16

UN Number (Sea Transport) 2758

IMO Class/Packing Group Class 3; Packing Group II



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IMO Proper Shipping Name	CARBAMATE PESTICIDE, LIQUID, FLAMMABLE, TOXIC flash point less than 23°C (contains Methomyl and Methanol)
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15. REGULATORY INFORMATION

Poisons Schedule S7**National and or International Regulatory Information**

This product is a carbamate and is a cholinesterase inhibitor. While not specifically included in regulations, it may be prudent to treat occupational health surveillance similarly to that for organophosphates. 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.

Packaging & Labelling

DANGEROUS POISON
KEEP OUT OF REACH OF CHILDREN
READ SAFETY DIRECTIONS BEFORE OPENING OR USING

Hazard Category Very Toxic, Highly Flammable**AICS (Australia)** All of the components in this product are listed on the Australian Inventory of Chemical Substances.

16. OTHER INFORMATION

Date of preparation or last revision of MSDS Reviewed 12/04/2011**Contact Person/Point Literature**

Normal Hours: Mrs Kathleen Marsh Phone: +61 3 9282 1000
After Hours: Shift Supervisor Phone: 1800 033 498
(1) Crop Care MSDS No. 41913, dated 27/03/2000.

References

The MSDS was reviewed. Various changes were made to the information. Section 4 - removal of atropine from First Aid Measures except under Advice to Doctor.

Revisions Highlighted

Other minor amendments to MSDS.

Other Information

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...End Of MSDS...

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