

Infosafe No™ 3NUZY	Issue Date : July 2017	ISSUED by NUFARM
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 Product Name **Nudrin® 225 Insecticide**

Classified as hazardous

1. Identification

GHS Product Identifier	Nudrin® 225 Insecticide
Product Code	1103
Product Type	Group 1A Insecticide
Company Name	NUFARM AUSTRALIA LIMITED. (ABN 80 004 377 780)
Address	103-105 Pipe Road Laverton North Victoria 3026 Australia
Telephone/Fax Number	Tel: +61 3 9282-1000 Fax: +61 3 9282-1001
Emergency phone number	1800 033 498 (24hr Australia)
Recommended use of the chemical and restrictions on use	For the control of certain insect pests as recommended in the directions for use table on the label.
Other Information	This Safety Data Sheet describes the properties of the concentrated product. The physical properties and the assessments may not apply to the properties of the product once it has been diluted for application.

2. Hazard Identification

GHS classification of the substance/mixture	Acute Toxicity - Oral: Category 2 Acute Toxicity - Dermal: Category 3 Acute Toxicity - Inhalation: Category 3 STOT Single Exposure Category 1 Flammable Liquids: Category 2 Hazardous to the Aquatic Environment - Long-Term Hazard: Category 1
Signal Word (s)	DANGER
Hazard Statement (s)	Fatal if swallowed. Toxic in contact with skin. Toxic if inhaled. Causes damage to organs. Highly flammable liquid and vapour. Very toxic to aquatic life with long lasting effects.
General Precautionary Statement (s)	If medical advice is needed, have product container or label at hand. Keep out of reach of children. Read label before use.
Pictogram (s)	Skull and crossbones, Flame, Health hazard, Environment, The below pictograms are GHS Hazard symbols for workplace use only. See SECTION 14 for Dangerous Goods information.



Precautionary statement – Prevention	Wash hands and exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves, clothing, eye and face protection. Do not breathe vapours or spray. Keep away from heat, sparks, open flames and hot surfaces. - No smoking. Keep container tightly closed.
Precautionary statement – Response	IF exposed: Call a POISON CENTER or doctor/physician. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Rinse mouth. IF ON SKIN: Wash with plenty of soap and water. Remove/Take off immediately all contaminated clothing. Wash contaminated clothing before reuse. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician.

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Other Information IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
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 %

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 contaminated leather items should be discarded. Seek medical advice, but only after the exposed skin has been thoroughly washed.

Eye contact If in eyes, hold eyelids open and wash with copious amounts of water for at least 15 minutes.
Seek medical advice immediately.

First Aid Facilities 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.
Avoid using large volumes of water which would spread the product.

Hazards from Combustion Products 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

Other Information STOP FIRE WATER FROM ENTERING DRAINS OR WATER BODIES.

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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, as possible, 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

Conditions for safe storage, including any incompatibilities 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

Occupational exposure limit values	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.

Appropriate 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 (or equivalent clothing) 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.
After each day's use, wash contaminated clothing and safety equipment.

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.

9. Physical and chemical properties

Form Liquid

Appearance Blue liquid

Odour Sulfur-like odour

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Solubility in Water	Solubility of methomyl is 58g/l @ 25°C
Specific Gravity	0.90
pH	7 - 7.5 (undiluted)
Vapour Pressure	0.72 mPa (25°C methomyl) 16.96 kPa (25°C methanol)
Volatile Component	~52%
Partition Coefficient: n-octanol/water	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

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.
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
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)
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. Inhalation of sprays or mists may result in effects described under ingestion.
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.

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Eye	Will irritate the eyes. May cause pupil constriction.
Carcinogenicity	The weight of the evidence is that methomyl is not carcinogenic.
Reproductive Toxicity	Data indicates no reproductive effects.
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.
Serious eye damage/irritation	The product is an eye irritant.
Mutagenicity	The weight of evidence indicates that methomyl does not present a mutagenic risk.
Skin corrosion/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', March 2016).

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.
Environmental 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.
Acute Toxicity - Daphnia	LC50 (48hr) for daphnia is 0.032 mg/l for methomyl.
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 or preferably pressure rinse containers before disposal. Add rinsings to the spray tank. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush or puncture and deliver empty packaging for appropriate disposal at an approved waste management facility. If an approved waste management facility is not available, bury the empty packaging 500mm 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. Empty containers and product should not be burnt. 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.

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Replace cap, close all valves and return to the point of supply for refill or storage.

14. Transport information

U.N. Number	2758
UN proper shipping name	CARBAMATE PESTICIDE, LIQUID, FLAMMABLE, TOXIC - flashpoint less than 23° (contains Methomyl and Methanol)
Transport hazard class(es)	3
Sub.Risk	6.1
Hazchem Code	•2WE
Packing Group	II
Storage and Transport EPG Number	Considered dangerous for transport by the Australian Code for the Transport of Dangerous Goods by Road and Rail. 3A2
IERG Number	16
UN Number (Sea Transport)	2758
IMO Class/Packing Group	Class 3; Packing Group II
IMO Proper Shipping Name	CARBAMATE PESTICIDE, LIQUID, FLAMMABLE, TOXIC flashpoint less than 23° (contains Methomyl and Methanol)

15. Regulatory information

Regulatory Information	WHS Schedule 11, item 34 (acute toxicity, category 2), item 7 (flammable liquid, category 2).
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.
Other Information	This product is registered with the Australian Pesticides and Veterinary Medicines Authority (APVMA). APVMA product number: 47470.

16. Other Information

Date of preparation or last revision of SDS	13/07/2017
Literature References	(1) Crop Care MSDS No. 41913, dated 27/03/2000.
Contact Person/Point	Normal Hours: Mrs Kathleen Marsh Phone: +61 3 9282 1000 After Hours: Shift Supervisor Phone: 1800 033 498
Revisions Highlighted	The SDS was reviewed. Minor changes were made to the information and product has been rebranded.
Other Information	® Registered trademark of BASF. ...End Of MSDS...

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