



# Material Safety Data Sheet

Page: 1 of 6

Infosafe No. NU010 Issue Date : October 2007 ISSUED by NUFARM

Product Name : **DICHLORVOS 1140 Insecticide**

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**Product Name** DICHLORVOS 1140 Insecticide  
**Product Code** 1040  
**Product Type** Group 1B Insecticide  
**Company Name** NUFARM AUSTRALIA LIMITED. (ABN 80 004 377 780)  
**Address** 103-105 Pipe Road Laverton North  
Victoria 3026 Australia  
**Emergency Tel.** 1800 033 498 (24hr Australia)  
**Telephone/Fax Number** Tel: +61 3 9282-1000  
Fax: +61 3 9282-1001  
**Recommended Use** For the control of insects infesting stored cereal grains for on farm use.  
**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** 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)** R24/25 Toxic in contact with skin and if swallowed.  
R26 Very toxic by inhalation.  
R43 May cause sensitization by skin contact.  
**Safety Phrase(s)** S1/2 Keep locked up and out of reach of children.  
S13 Keep away from food, drink and animal feeding stuffs.  
S25 Avoid contact with eyes.  
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S36 Wear suitable protective clothing.  
S37/39 Wear suitable gloves and eye/face protection.  
S45 In case of accident or if you feel unwell seek medical advice immediately  
S63 In case of accident by inhalation, remove casualty to fresh air and keep at rest.  
**Other Information** Poisons Schedule S7 DANGEROUS POISON

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Chemical Characterization** Liquid

<b>Ingredients</b>	<b>Name</b>	<b>CAS</b>	<b>Proportion</b>
	Dichlorvos	62-73-7	1140 g/L

## 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.  
See 'Ingestion' for further information.  
**Ingestion** Rinse mouth thoroughly with water.  
Seek medical advice immediately.  
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.  
**Skin** Wash affected areas thoroughly with soap and water.  
Remove contaminated clothing and launder before re-use.



# Material Safety Data Sheet

Page: 2 of 6

Infosafe No. NU010 Issue Date : October 2007 ISSUED by NUFARM

Product Name : **DICHLORVOS 1140 Insecticide**

---

<b>Eye</b>	Seek medical advice, but only after the exposed skin has been thoroughly washed. If in eyes, hold eyelids open and wash with copious amounts of water for at least 15 minutes. Seek medical advice immediately.
<b>First Aid Facilities</b>	If poisoning occurs, contact a doctor or the Poisons Information Centre (Australia) on 13 11 26. If this product is regularly used, it may be wise to keep a supply of atropine tablets (0.6 mg) (check State Regulations).
<b>Advice to Doctor</b>	An anticholinesterase compound. If vomiting occurs, surfactant present may cause pulmonary pneumonitis. A treatment for cholinesterase inhibition is: 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.

---

## 5. FIRE FIGHTING MEASURES

---

<b>Suitable Extinguishing Media</b>	Water fog, foam, carbon dioxide or dry chemical.
<b>Hazards from Combustion Products</b>	If involved in a fire, it may emit carbon monoxide, phosgene and possibly oxides of phosphorous.
<b>Special Protective Equipment for fire fighters</b>	Breathable air apparatus must be worn when fighting a fire in which this product is involved.
<b>Specific Hazards</b>	Will emit toxic fumes of hydrogen chloride if involved in fires and dichlorvos vapours will also be evolved.
<b>Hazchem Code</b>	2X
<b>Other Information</b>	STOP FIRE WATER FROM ENTERING DRAINS OR WATER BODIES.

---

## 6. ACCIDENTAL RELEASE MEASURES

---

<b>Spills &amp; Disposal</b>	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.
<b>Personal Protection</b>	For appropriate personal protective equipment (PPE), refer Section 8.

---

## 7. HANDLING AND STORAGE

---

<b>Precautions for Safe Handling</b>	Do NOT contaminate dams, rivers or streams, or any other water bodies with chemical or used containers.
<b>Conditions for Safe Storage</b>	Store in a locked enclosure. Store in the closed, original container in a cool, well ventilated area. Do not store for prolonged periods in direct sunlight. Keep container tightly sealed and do not store with seed, fertilisers or foodstuffs.



# Material Safety Data Sheet

Page: 3 of 6

Infosafe No. NU010 Issue Date : October 2007 ISSUED by NUFARM

Product Name : **DICHLORVOS 1140 Insecticide**

**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	
	Dichlorvos			0.9	0.1	
<b>Other Exposure Information</b>	'SK' notice - absorption through the skin may be a significant source of exposure. The exposure standard is invalidated if such contact should occur.					
<b>Engineering Controls</b>	The volatility of dichlorvos is relatively high. In confined spaces the concentration of dichlorvos in air can readily exceed the maximum allowable concentration for workplace air. Forced ventilation and good handling practices are necessary for safe operation. If it is impossible to provide forced ventilation in confined spaces, wear suitable breathing protection, preferably SCBA.					
<b>Personal Protective Equipment</b>	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.					
<b>Hygiene Measures</b>	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.					
<b>Requirements Concerning Special Training</b>	NSW regulations require that people who use pesticides in their job or business must have training in the application of the materials.					

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Form</b>	Liquid
<b>Appearance</b>	Clear, water-white liquid
<b>Odour</b>	Aromatic odour
<b>Melting Point</b>	<-18°C
<b>Boiling Point</b>	120°C
<b>Solubility in Water</b>	Forms an emulsion in water.
<b>Specific Gravity</b>	1.375
<b>Vapour Pressure</b>	2.1 Pa @ 25°C for dichlorvos
<b>Volatile Component</b>	None
<b>Octanol/Water Partition Coefficient</b>	Kow Log P is 1.9 (OECD 117) for dichlorvos
<b>Flash Point</b>	70°C
<b>Flammability</b>	Combustible liquid C1.

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability</b>	Stable under normal conditions. Hydrolyses at pH >7.
<b>Incompatible Materials</b>	Avoid contact with alkaline materials.
<b>Hazardous Reactions</b>	Keep away from strong oxidising agents.
<b>Hazardous Polymerization</b>	Hazardous polymerisation is not possible.

## 11. TOXICOLOGICAL INFORMATION

<b>Toxicology Information</b>	No harmful effects are expected if the precautions on the label and this MSDS are followed.
-------------------------------	---



# Material Safety Data Sheet

Page: 4 of 6

Infosafe No. NU010 Issue Date : October 2007 ISSUED by NUFARM

Product Name : **DICHLORVOS 1140 Insecticide**

---

<b>Inhalation</b>	Highly dangerous - avoid breathing spray mists. In confined spaces, the concentrate can give rise to hazardous levels of dichlorvos vapour in the air. See effects under 'Ingestion'.
<b>Ingestion</b>	Symptoms of overexposure to large quantities of product may include: nausea, vomiting, abdominal pains, diarrhea, pinpoint pupils, blurred vision, profuse sweating, salivations and muscle twitching. More severe poisoning may depress respiration and convulsions may occur.
<b>Skin</b>	Prolonged contact with the concentrate may result in absorption of dichlorvos in harmful amounts. Symptoms of over exposure may be similar to those described for ingestion. May irritate the skin.
<b>Eye</b>	The concentrate will cause severe irritation and possible damage unless washed off immediately.
<b>Chronic Effects</b>	Regular exposure may result in lowering of cholinesterase activity which will recover within a few days after exposure ceases.
<b>Acute Toxicity - Oral</b>	LD50 (rat) 50 mg/kg for dichlorvos Feeding at 100mg/kg diet for 2 years produces no symptoms of illness in rats apart from cholinesterase inhibition. Maximum acceptable concentration in workplace atmosphere over an 8-hour work period 0.9 mg/m <sup>3</sup> . In a totally enclosed space (at 20°C), the atmospheric concentration of dichlorvos could rise to 160 mg/m <sup>3</sup> . Dichlorvos does not bioaccumulate. It is rapidly metabolised and excreted from the body.
<b>Acute Toxicity - Dermal</b>	LD50 (rat) 90 mg/kg for dichlorvos
<b>Acute Toxicity - Inhalation</b>	LC50 (rat) (4hr) 0.23 mg/l In confined spaces, dichlorvos vapour may approach this concentration over a prolonged period.
<b>Eye Irritation</b>	The product is an eye irritant.
<b>Skin Irritation</b>	Mild to moderate skin irritant.
<b>Skin Sensitisation</b>	Prolonged and repeated skin contact may result in skin sensitisation.
<b>Human Effects</b>	Repeated minor exposure may have a cumulative poisoning effect.
<b>Other Information</b>	The Australian Acceptable Daily Intake (ADI) for dichlorvos for a human is 0.001 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 0.014 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, September 2006).

---

## 12. ECOLOGICAL INFORMATION

---

<b>Known Harmful Effects on the Environment</b>	Harmful to fish and other aquatic organisms.
<b>Other Precautions</b>	Do not spray on vegetation where honeybees are foraging. Do not spray in high winds. Do not contaminate dams, waterways or sewers with this product or the containers which have held this product.
<b>Environ. Protection</b>	Marine pollutant. Spray drift can cause damage, read the label for more information.
<b>Acute Toxicity - Fish</b>	The following is data for the active ingredient, dichlorvos. Toxic to fish. LC50 (96hr) for rainbow trout is 0.2 mg/l.
<b>Acute Toxicity - Daphnia</b>	EC50 (48hr) is 0.00019 mg/l.
<b>Acute Toxicity - Other Organisms</b>	Birds: Toxic to birds. LD50 for bobwhite quail is 24 mg/kg Bees: Toxic to bees. LD50 0.29 µg/bee. However, no threat to bees as this product is used as a grain fumigant.

---

## 13. DISPOSAL CONSIDERATIONS

---

<b>Product Disposal</b>	On site disposal of the concentrated product is not acceptable. Ideally, the product should be used for its intended purpose. If there is a
-------------------------	--



# Material Safety Data Sheet

Page: 5 of 6

Infosafe No. NU010 Issue Date : October 2007 ISSUED by NUFARM

Product Name : **DICHLORVOS 1140 Insecticide**

**Container Disposal** need to dispose of the product, approach local authorities who hold periodic collections of unwanted chemicals (ChemClear®).  
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.  
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** 3018  
**Proper Shipping Name** ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC - (contains Dichlorvos)  
**DG Class** 6.1  
**Hazchem Code** 2X  
**Packaging Method** 3.8.6.1  
**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** 6A1  
**IERG Number** 35  
**UN Number (Sea Transport)** 3018  
**IMO Class/Packing Group** Class 6.1; Packing Group II  
**IMO Proper Shipping Name** ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC (contains Dichlorvos)

## 15. REGULATORY INFORMATION

**Poisons Schedule** S7  
**National and or International Regulatory Information** 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, Irritant  
**AICS (Australia)** All of the components in this product are listed on the Australian Inventory of Chemical Substances.

## 16. OTHER INFORMATION

**Contact Person/Point** Normal Hours: Mr Volker Maier Phone: +61 3 9282 1000  
After Hours: Shift Supervisor Phone: 1800 033 498



# Material Safety Data Sheet

Page: 6 of 6

Infosafe No.	NU010	Issue Date : October 2007	ISSUED by NUFARM
--------------	-------	---------------------------	------------------

Product Name : **DICHLORVOS 1140 Insecticide**

---

**Revisions**  
**Highlighted**

The MSDS was reviewed. Changes made to sections:  
9 - Flashpoint  
...End Of MSDS...