

SAFETY DATA SHEET

058

Product Name **INSECTIGAS D****1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER**

Supplier Name BOC LIMITED (AUSTRALIA)
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Synonym(s) 058 - MSDS NUMBER • PRODUCT CODE: 188
Use(s) INSECTICIDE • PESTICIDE
SDS Date 26 Mar 2010

2. HAZARDS IDENTIFICATION

CLASSIFIED AS HAZARDOUS ACCORDING TO ASCC CRITERIA

RISK PHRASES

R21 Harmful in contact with skin.
R23 Toxic by inhalation.
R43 May cause sensitisation by skin contact.

SAFETY PHRASES

S23 Do not breathe gas/fumes/vapour/spray (where applicable).
S24/25 Avoid contact with skin and eyes.
S28 After contact with skin, wash immediately with plenty of water.
S36/37 Wear suitable protective clothing and gloves.
S42 During fumigation/spraying, wear suitable respiratory equipment [appropriate wording to be specified by the manufacturer].
S45 In case of accident or if you feel unwell seek medical advice immediately (show the label where possible).

CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE

UN No.	1967	DG Class	2.3	Subsidiary Risk(s)	None Allocated
Packing Group	None Allocated	Hazchem Code	2XE	EPG	2B1

3. COMPOSITION/ INFORMATION ON INGREDIENTS

Ingredient	Formula	CAS No.	Content
DICHLORVOS	C4-H7-Cl2-O4-P	62-73-7	5%
CARBON DIOXIDE	CO2	124-38-9	95%

4. FIRST AID MEASURES

Eye	If in eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor, or for at least 15 minutes.
Inhalation	If inhaled, remove from contaminated area. To protect rescuer, use an Air-line respirator or Self Contained Breathing Apparatus (SCBA). Apply artificial respiration if not breathing. Give oxygen if breathing is difficult. Seek immediate medical attention. For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor.
Skin	Cold burns: Remove contaminated clothing and gently flush affected areas with warm water (30°C) for 15 minutes. Apply sterile dressing and treat as for a thermal burn. For large burns, immerse in warm water for 15 minutes. DO NOT apply any form of direct heat. Seek immediate medical attention. Skin contact: Wash affected areas with a copious quantity of water. Remove contaminated clothing and wash before re-use.
Ingestion	Due to product form and application, ingestion is considered unlikely.
Advice to Doctor	Ensure adequate oxygenation as atropine may precipitate ventricular fibrillation in the presence of cyanosis. Antidotes: 1. Atropine sulphate. 2.5 mg IMI and repeat every 10 minutes until signs of atropinisation occur (flushed face, dry mouth, widely dilated pupils, fast pulse (>140)). Repeat atropine to maintain mild atropinisation for 24-48 hours. Interruption of therapy has caused fatal pulmonary oedema or respiratory failure. 2. Cholinesterase reactivator. 2-PAM, Pralidoxime, Protopam, 2 pyridine aldoxine, methchloride (methiodide). This should be given after full atropinisation. (2 x 20 mL ampoules) by slow IV injection. Repeat dose in 30 minutes if respiration not improved. This dose may be repeated twice within each 24 hour period. 2 PAM is of low toxicity if used at above doses but can cause symptoms similar to OP poisoning if dosage is excessive. Avoid use of morphine, aminophylline, phenothiazines or respiratory depressants.

First Aid Facilities Water or sterile saline solution for irrigation.

5. FIRE FIGHTING MEASURES

Flammability	Non flammable.
Fire and Explosion	Temperatures in a fire may cause cylinders to rupture. Cool cylinders or containers exposed to fire by applying water from a protected location. Do not approach cylinders or containers suspected of being hot. Remove cool cylinders from the path of the fire. Evacuate the area if unable to keep cylinders cool. Ensure work area is thoroughly ventilated before re-entry.
Extinguishing	None required.
Hazchem Code	2XE

6. ACCIDENTAL RELEASE MEASURES

Spillage	If the cylinder is leaking, evacuate area of personnel. Inform manufacturer/supplier of leak. Use personal protective equipment. Carefully move material to a well ventilated remote area, then allow to discharge. Do not attempt to repair leaking valve or cylinder safety devices.
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7. STORAGE AND HANDLING

Storage	Do not store near incompatible materials. Cylinders should be stored below 45°C in a secure area, upright and restrained to prevent cylinders from falling. Cylinders should also be stored in a dry, well ventilated area constructed of non-combustible material with firm level floor (preferably concrete), away from areas of heavy traffic and emergency exits. Store and handle cylinders in compliance with AS4332 "The Storage and Handling of Gases in Cylinders" and AS2507 "The Storage and Handling of Pesticides".
Handling	Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Do not drag, drop, slide or roll cylinders. The uncontrolled release of a gas under pressure may cause physical harm. Use a suitable hand truck for cylinder movement.

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

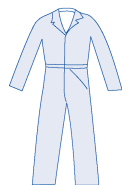
Exposure Stds	Ingredient	Reference	TWA		STEL	
			ppm	mg/m3	ppm	mg/m3
	Carbon dioxide	ASCC (AUS)	5000	9000	30000	54000
	Carbon dioxide in coal mines	ASCC (AUS)	12500	22500	30000	54000
	Dichlorvos (DDVP)	ASCC (AUS)	0.1	0.9	--	--

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Biological Limits No biological limit allocated.

Engineering Controls Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended. Maintain vapour levels below the recommended exposure standard.

PPE Wear safety boots, leather gloves, coveralls, a Full-face Type A (Organic gases and vapours) respirator and safety glasses. Where a significant inhalation risk exists, wear self-contained breathing apparatus (SCBA) or an air-line respirator.



9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	COLOURLESS MIST	Solubility (Water)	0.759 cm ³ /cm ³ (Carbon dioxide)
Odour	AROMATIC ODOUR	Specific Gravity	NOT APPLICABLE
pH	NOT APPLICABLE	% Volatiles	100 %
Vapour Pressure	6300 kPa @ 25°C (Approximately)	Flammability	NON FLAMMABLE
Vapour Density	1.53 (Air = 1)	Flash Point	NOT RELEVANT
Boiling Point	-78°C (Approximately)	Upper Explosion Limit	NOT APPLICABLE
Melting Point	NOT AVAILABLE	Lower Explosion Limit	NOT APPLICABLE
Evaporation Rate	NOT APPLICABLE		
Autoignition Temperature	NOT APPLICABLE	Critical Pressure	7380 kPa (Approximately)
Critical Temperature	31°C (Approximately)		

10. STABILITY AND REACTIVITY

Material to Avoid	Dichlorvos will react with moisture to form corrosive breakdown products which attack mild steel. Avoid wetting surfaces which have plastic, painted, and similar surfaces or are very absorbent (eg. furnishings). Aluminium or stainless steel preferred. Teflon and nylon suitable but most rubbers and plastics are affected by carbon dioxide. Corrosive when moist.
Decomposition	May evolve toxic gases if heated to decomposition.
Hazardous Reactions	Polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

Health Hazard Summary	Toxic - asphyxiant. Dichlorvos (DDVP) may induce vomiting, nausea, diarrhoea, slow pulse, headache, giddiness, tearing, blurred vision, sweating, muscular weakness, staggering, abdominal, cramping, difficulty breathing and loss of consciousness. Escaping liquid from the cylinder can form a dry ice powder like snow and leave a liquid DDVP residue. Uncontrolled release of compressed gas may result in physical injuries. Carbon dioxide is the body's regulator of the breathing function. It is normally present in the air at a concentration of 340 ppm by volume. An increase above this level may result in accelerated breathing and heart rate. Adverse health affects to long term exposure to carbon dioxide have not been reported. However, in environments such as submarines where exposure to levels of 0.5-1.0% may occur, specialist medical opinion should be sought on the effects of long term exposure. DDVP is absorbed through the skin, eyes, lungs and stomach. A relatively short exposure may cause poisoning by blocking cholinesterase in the blood and muscles. Symptoms of poisoning may be of sudden onset and should not be ignored. Children are more susceptible than adults. Dichlorvos is classified as possibly carcinogenic to humans (IARC Group 2B).
Eye	Irritant. Contact with spray mist may result in irritation. Contact with dry ice powder could result in frostbite or cold burns.
Inhalation	Toxic - asphyxiant. A toxic and asphyxiant mixture if directly inhaled. Inhalation of spray mist may result in asthmatic reactions.
Skin	Irritant - toxic. Contact may result in dermatitis in sensitised individuals. Skin contact with dry ice powder could result in frostbite or cold burns.
Ingestion	Ingestion is considered unlikely due to product form.
Toxicity Data	DICHLORVOS (62-73-7) Health Surveillance: Required [NOHSC:1005(1994)] LC50 (Inhalation): 13 mg/m ³ /4 hours (mouse)

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LD50 (Ingestion): 17 mg/kg (rat)
LD50 (Intraperitoneal): 15 mg/kg (rat)
LD50 (Intravenous): 18 mg/kg (rat)
LD50 (Skin): 750 ug/kg (rat)
LD50 (Subcutaneous): 10.8 mg/kg (rat)
CARBON DIOXIDE (124-38-9)
LC50 (Inhalation): 470000 ppm/30M (rat)
LCLo (Inhalation): 9 pph/5M (human)

12. ECOLOGICAL INFORMATION

Environment When discharged to the atmosphere, carbon dioxide may contribute to the greenhouse effect. Organophosphates are highly toxic to birds, mammals and fish. Bioaccumulation is unlikely as these chemicals would kill the organism before it would be taken into the tissues. Even when these chemicals are taken up by fish, they seldom persist for more than a week.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Cylinders should be returned to the manufacturer or supplier for disposal of contents.

Legislation Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

Transport Ensure cylinder is separated from driver and foodstuffs. Refer to requirements of the ADG code.

**CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE**

Shipping Name	INSECTICIDE GAS, TOXIC, N.O.S.				
UN No.	1967	DG Class	2.3	Subsidiary Risk(s)	None Allocated
Packing Group	None Allocated	Hazchem Code	2XE	EPG	2B1

15. REGULATORY INFORMATION

Poison Schedule Classified as a Schedule 6 (S6) Poison using the criteria in the Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

AICS All chemicals listed on the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION

Additional Information The storage of significant quantities of gas cylinders must comply with AS4332 The storage and handling of gases in cylinders. For use as a space spray for the control of flying and crawling insects.

The manufacturer reports that this product is registered in Australia as an Agricultural Chemical for use by licensed Pest Controllers.

Application method: Cylinder positioned vertically with valve at top. Portable cylinders connected to hand held spray gun or manifolded cylinders connected to fixed pipework distribution system with spray nozzles and controlled release.

ABBREVIATIONS:

ADB - Air-Dry Basis.

BEI - Biological Exposure Indice(s)

CAS# - Chemical Abstract Service number - used to uniquely identify chemical compounds.

CNS - Central Nervous System.

EINECS - European INventory of Existing Commercial chemical Substances.

IARC - International Agency for Research on Cancer.

M - moles per litre, a unit of concentration.

mg/m³ - Milligrams per cubic metre.

NOS - Not Otherwise Specified.

NTP - National Toxicology Program.

OSHA - Occupational Safety and Health Administration.

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pH - relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm - Parts Per Million.
RTECS - Registry of Toxic Effects of Chemical Substances.
TWA/ES - Time Weighted Average or Exposure Standard.

HEALTH EFFECTS FROM EXPOSURE:

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a Chem Alert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this Chem Alert report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

Report Status

This document has been compiled by RMT on behalf of the manufacturer of the product and serves as the manufacturer's Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

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End of Report