

**BOC Limited**  
ABN 95 000 029 729  
10 Julius Avenue  
NORTH RYDE NSW 2113  
Tel + 61 131 262  
Fax + 61 132 427

**Product Name**    **INSECTIGAS D**

**1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER**

**Supplier Name**    BOC LIMITED (AUSTRALIA)  
**Address**            10 Julius Avenue, North Ryde NSW, 2113, AUSTRALIA  
**Telephone**        +61 131 262, (02) 8874 4400  
**Fax**                 +61 132 427 (24 hours)  
**Emergency**        1800 653 572 (24/7) (Australia only)  
**Synonyms**        058 - MSDS NUMBER, PRODUCT CODE: 188.  
**Uses**                INSECTICIDE, PESTICIDE.

**2. HAZARDS IDENTIFICATION**

**CLASSIFIED AS HAZARDOUS ACCORDING TO NOHSC CRITERIA**  
**CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE**

**Risk And Safety Phrases**    Risk and Safety Phrases are standardised phrases allocated to Hazardous Substances. Risk phrases convey a general description of the physicochemical, environmental and health hazards of a substance. Safety phrases provide information on safe storage, handling, disposal, personal protection and first aid.

**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, contact a doctor or Poisons Information Centre immediately (show the label where possible).

**3. COMPOSITION / INFORMATION ON INGREDIENTS**

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

**4. FIRST AID MEASURES**

**Eye**                    Immediately flush with tepid water or with sterile saline solution. Hold eyelids apart and irrigate for 15 minutes. Seek medical attention.

**Inhalation**        Remove victim from area of exposure immediately. If assisting a victim, avoid becoming a casualty. Wear an Air-line respirator or Self Contained Breathing Apparatus (SCBA). If victim is not breathing apply artificial respiration and seek urgent medical attention. Give oxygen if breathing is difficult. Seek immediate medical attention.

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#### 4. FIRST AID MEASURES cont.

**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** 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 aldoxime, 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** Non flammable. Temperatures in a fire may cause cylinders to rupture. Cool cylinders exposed to fire by applying water from a protected location. Do not approach cylinders 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** Not relevant.

**Hazchem Code** 2XE

#### 6. ACCIDENTAL RELEASE MEASURES

**Spillage** If the cylinder is leaking evacuate area of personnel. Inform manufacturer/supplier of leak. Wear appropriate PPE and carefully move it to a well-ventilated remote area, then allow to discharge. Do not attempt to repair leaking valve or cylinder safety devices.

#### 7. HANDLING AND STORAGE

**Handling** Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

**Storage** Do not store near incompatible materials. Cylinders should be stored below 45 C in a secure area and upright to prevented 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

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## 7. HANDLING AND STORAGE cont.

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".

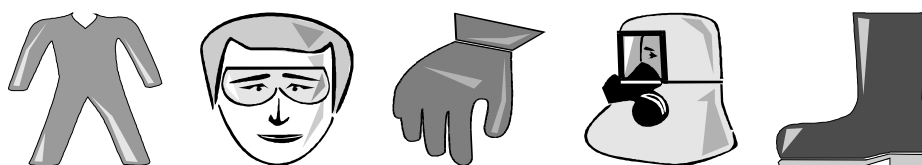
## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Ventilation** Do not inhale vapours. Use in well ventilated areas. In poorly ventilated areas, mechanical extraction ventilation is recommended. Maintain vapour levels below the recommended exposure standard.

**Exposure Standards** DICHLORVOS (62-73-7)  
ES-TWA : 0.1 ppm (0.9 mg/m<sup>3</sup>)  
WES-TWA : 0.1 ppm (0.9 mg/m<sup>3</sup>)

CARBON DIOXIDE (124-38-9)  
ES-TWA : 5000 ppm (ACGIH; NIOSH; NOHSC)  
ES-STEL : 30000 ppm (ACGIH; NIOSH; NOHSC)  
WES-TWA : 5000 ppm (9000 mg/m<sup>3</sup>)

**PPE** Wear coveralls, safety glasses, safety boots, a Full-face Type A (Organic vapour) respirator and leather gloves. 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  
**Odour:** AROMATIC ODOUR  
**pH:** NOT APPLICABLE  
**Vapour Pressure:** 6300 kPa @ 25 C (Approximately)  
**Vapour Density:** 1.53 (Air = 1)  
**Boiling Point:** - 78 C (Approximately)  
**Melting Point:** NOT AVAILABLE  
**Evaporation Rate:** NOT APPLICABLE  
**Solubility (water):** 0.759 cm<sup>3</sup>/cm<sup>3</sup> (Carbon dioxide)  
**Specific Gravity:** NOT APPLICABLE  
**% Volatiles:** 100 %  
**Flammability:** NON FLAMMABLE  
**Flash Point:** NOT APPLICABLE  
**Upper Explosion Limit:** NOT APPLICABLE  
**Lower Explosion Limit:** NOT APPLICABLE  
**Autoignition Temperature:** NOT APPLICABLE  
**Critical Temperature:** 31 C (Approximately)  
**Critical Pressure:** 7380 kPa (Approximately)

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## 10. STABILITY AND REACTIVITY

**Reactivity** 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 (e.g. furnishings). Aluminium or stainless steel preferred. Teflon and nylon suitable but most rubbers and plastics are affected by carbon dioxide. Corrosive when moist.

**Decomposition Products** May evolve toxic gases if heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

**Health Hazard Summary** Toxic - asphyxiant gas. 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 cause 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 will cause 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 cause irritation. Eye contact with dry ice powder could result in frostbite or cold burns.

**Inhalation** Toxic - asphyxiant. Inhalation of spray mist may cause asthmatic reactions.

**Skin** Irritant - toxic. Irritating to skin. May be absorbed by skin contact. Dermatitis may be caused in sensitised individuals. Skin contact with dry ice powder could result in frostbite or cold burns.

**Ingestion** Due to product form, ingestion is considered highly unlikely.

**Toxicity Data** DICHLORVOS (62-73-7)  
LC50 (Inhalation) : 13 mg/m<sup>3</sup>/4 hours (mouse)  
LD50 (Skin) : 750 ug/kg (rat)  
LD50 (Ingestion) : 17 mg/kg (rat)  
Health Surveillance : Required [NOHSC:1005(1994)]

## 12. ECOLOGICAL INFORMATION

**Environment** 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.

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**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.

**UN Number** 1967  
**Shipping Name** INSECTICIDE GAS, TOXIC, N.O.S.  
**DG Class** 2.3  
**Subsidiary Risk(s)** None Allocated  
**Packing Group** None Allocated  
**Hazchem Code** 2XE

**15. REGULATORY INFORMATION**

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

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

**16. OTHER INFORMATION**

**Additional Information** 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.

**COLOUR RATING SYSTEM:** Chem Alert reports are assigned a colour rating of Green, Amber or Red for the purpose of providing users with a quick and easy means of determining the hazardous nature of a product. Safe handling recommendations are provided in all Chem Alert reports so as to clearly identify how users can control the hazards and thereby reduce the risk (or likelihood) of adverse effects. As a general guideline a Green colour rating indicates a low hazard, an Amber colour rating indicates a moderate hazard and a Red colour rating indicates a high hazard.

**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.

**HEALTH EFFECTS FROM EXPOSURE:**

It should be noted that the effects from exposure to this product will depend on several factors including: frequency

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**16. OTHER INFORMATION cont.**

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.

**ABBREVIATIONS:**

mg/m<sup>3</sup> - Milligrams per cubic metre

ppm - Parts Per Million

TWA/ES - Time Weighted Average or Exposure Standard.

CNS - Central Nervous System

NOS - Not Otherwise Specified

pH - relates to hydrogen ion concentration - this value will relate to a scale of 0 - 14, where 0 is highly acidic and 14 is highly alkaline.

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

M - moles per litre, a unit of concentration.

IARC - International Agency for Research on Cancer.

**Report Reviewed** 21st December 2006

**Date Printed** 21st December 2006

**Report Status** Chem Alert reports are compiled as an independent source of information by RMT's scientific department. The information is based on the latest chemical and toxicological research, and in compliance with relevant standards, guidance notes and legislation (where applicable). The Chem Alert report is not intended as a replacement to the manufacturer's original MSDS that is provided to Chem Alert subscribers for convenience. In many instances, Chem Alert reports are compiled on behalf of manufacturers, in which case they serve as the "Manufacturer's MSDS" and are clearly identified as such on the relevant reports.

**Prepared By** Risk Management Technologies  
5 Ventnor Avenue, West Perth  
Western Australia 6005  
Phone: +61 8 9322 1711  
Fax: +61 8 9322 1794  
Web: www.rmt.com.au

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