

BOC Limited
988 Great South Road
PENROSE AUCKLAND
Tel: + 64 9 525 5600
Fax: + 64 9 579 7889

Product Name INSECTIGAS (BOC LIMITED - NZ) (5% DICHLORVOS)

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Supplier Name BOC LIMITED (NEW ZEALAND)
Address 988 Great South Road, Penrose Auckland, NEW ZEALAND
Telephone +64 9 525 5600
Emergency 0800 111 333 (NZ only)
Synonyms PRODUCT CODE: 109.
Uses INSECTICIDE, PESTICIDE.

2. HAZARDS IDENTIFICATION

**CLASSIFIED AS HAZARDOUS ACCORDING TO CRITERIA IN THE HS (MIN DEG OF HAZ) REGS 2001
CLASSIFIED AS A DANGEROUS GOOD ACCORDING TO NZS 5433**

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

R21/22 Harmful in contact with skin and if swallowed.

SAFETY PHRASES

S1/2 Keep locked up and out of reach of children.

S23 Do not breathe gas/fumes/vapour/spray (where applicable).

S36/37 Wear suitable protective clothing and gloves.

S45 In case of accident or if you feel unwell, contact a doctor or Poisons Information Centre immediately (show the label where possible).

HSNO Classifications HSNO Classifications for this product are outlined below. Please refer to the New Zealand Hazardous Substances (Classification) Regulations 2001 for more information.

6.1B, 6.5B, 6.7B, 6.9B, 9.1A, 9.4B

3. COMPOSITION / INFORMATION ON INGREDIENTS

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

4. FIRST AID MEASURES

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

Inhalation Remove from area of exposure immediately. If assisting a victim avoid becoming a casualty, wear an Air-line respirator or Self Contained Breathing Apparatus (SCBA). Be aware of possible explosive atmospheres. If victim is not breathing apply artificial respiration and seek urgent medical attention. Give oxygen if available. Keep warm and rested.

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- 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.
- Ingestion** Ingestion is considered unlikely. However, if ingestion occurs, drink large volumes of water. Seek medical attention. For advice, contact a National Poison Centre on 0800 764 766 (0800 POISON) or +643 479 7248 (New Zealand) or a doctor.
- 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** Atropine tablets. Air Viva™ or Oxy Viva™ . 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. Call fire brigade. 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** Non flammable. Use water fog to cool containers from protected area.
- Hazchem Code** 2XE

6. ACCIDENTAL RELEASE MEASURES

- Spillage** GAS CYLINDERS: If the cylinder is leaking, eliminate all potential ignition sources and 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 (eg. if container is damaged).
- 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

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non-combustible material with firm level floor (preferably concrete), away from areas of heavy traffic and emergency exits.

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/m³)
WES-TWA : 0.1 ppm (0.9 mg/m³)

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/m³)

PPE Wear coveralls, safety glasses, safety boots and leather gloves. Where an 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 AVAILABLE
Vapour Pressure: 6000 kPa @ 25 C (Approximately)
Vapour Density: NOT AVAILABLE
Boiling Point: - 78 C (Approximately)
Melting Point: NOT AVAILABLE
Evaporation Rate: NOT AVAILABLE
Solubility (water): 0.759 cm³/cm³ (Carbon dioxide)
Specific Gravity: NOT AVAILABLE
% Volatiles: NOT AVAILABLE
Flammability: NON FLAMMABLE
Flash Point: NOT RELEVANT
Upper Explosion Limit: NOT RELEVANT
Lower Explosion Limit: NOT RELEVANT
Autoignition Temperature: NOT AVAILABLE

10. STABILITY AND REACTIVITY

Reactivity Dust of aluminium, chrome manganese may ignite then explode when heated in carbon dioxide. Incompatible with acrylaldehyde, aziridine, metal acetylides, sodium peroxide. Dichlorvos will react with moisture to form corrosive

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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. 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/m³/4 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.

Legislation Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

Transport Ensure cylinder is separated from driver.

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 A poison schedule number has not been allocated to this product using the criteria in The Toxic Substances Regulations 1983.

16. OTHER INFORMATION

Additional Information 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. This product is used for the control of flying and crawling insects such as cockroaches, flies and flour beetles, in accordance with label directions. Insectigas is a non flammable DDVP/carbon dioxide mixture and is dispensed via an educator tube from the liquid phase. Particle size of the droplets produced by approved spray equipment is in the range of 2-20 microns. This optimum size provides the most effective control of insects and allows the most economic use of the product. Insectigas is an insect control agent widely used by professional pest control operators because of its superior efficacy, proven cost effectiveness, excellent penetration (semi-fumigant action) and rapid knockdown.

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.

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16. OTHER INFORMATION cont.

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.

ABBREVIATIONS:

mg/m³ - 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 3rd February 2006

Date Printed 3rd February 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.

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