BOC
A Member of The Linde Group

# SAFETY DATA SHEET

**# 0166**

**Product Name** **GENUS**

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

| | |
|---|---|
| **Supplier Name** | **BOC LIMITED (AUSTRALIA)** |
| **Address** | 10 Julius Avenue, North Ryde, NSW, AUSTRALIA, 2113 |
| **Telephone** | 131 262, (02) 8874 4400 |
| **Fax** | 132 427 (24 hours) |
| **Emergency** | 1800 653 572 (24/7) (Australia only) |
| **Web Site** | http://www.boc.com.au/ |
| **Synonym(s)** | 0166 - SDS NUMBER • 6G/KG FENOXYCARB (ETHYL (2-(P-PHENOXY)ETHYL) CARBONATE • GENUS INSECT GROWTH REGULATOR • INSECTICIDE GAS N.O.S. (FENOXYCARB) NON-FLAMMABLE • PRODUCT CODE: 281 |
| **Use(s)** | INSECTICIDE • SPACE SPRAY |
| **SDS Date** | 26 Mar 2010 |

## 2. HAZARDS IDENTIFICATION

**NOT CLASSIFIED AS HAZARDOUS ACCORDING TO ASCC CRITERIA**

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

| | | | | | |
|---|---|---|---|---|---|
| **UN No.** | 1968 | **DG Class** | 2.2 | **Subsidiary Risk(s)** | None Allocated |
| **Packing Group** | None Allocated | **Hazchem Code** | 2RE | **EPG** | 2C2 |

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

| Ingredient | Formula | CAS No. | Content |
|---|---|---|---|
| ACETONE | C3-H6-O | 67-64-1 | 19.4% |
| FENOXYCARB | C17-H19-N-O4 | 72490-01-8 | 0.6% |
| CARBON DIOXIDE | CO2 | 124-38-9 | 80% |

## 4. FIRST AID MEASURES

| | |
|---|---|
| **Eye** | Cold burns: Immediately flush with tepid water or with sterile saline solution. Hold eyelids apart and irrigate for 15 minutes. Seek medical attention. |
| **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 available. 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. |
| **Ingestion** | Due to product form and application, ingestion is considered unlikely. |
| **Advice to Doctor** | Treat for asphyxia and cold burns. |

## 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** Use water fog to cool containers from protected area.

**Hazchem Code** 2RE

## 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.

## 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.

**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**

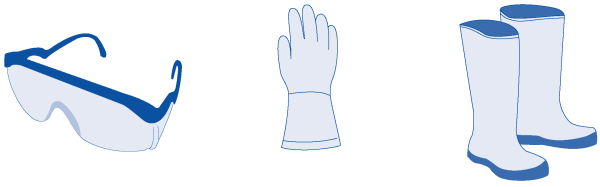
| Ingredient | Reference | TWA | | STEL | |
|---|---|---|---|---|---|
| | | ppm | mg/m3 | ppm | mg/m3 |
| Acetone | ASCC (AUS) | 500 | 1185 | 1000 | 2375 |
| Carbon dioxide | ASCC (AUS) | 5000 | 9000 | 30000 | 54000 |
| Carbon dioxide in coal mines | ASCC (AUS) | 12500 | 22500 | 30000 | 54000 |

**Biological Limits**

| Ingredient | Reference | Determinant | Sampling Time | BEI |
|---|---|---|---|---|
| ACETONE | ACGIH BEI | Acetone in urine | End of shift | 50 mg/L |

**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, cotton or leather gloves and safety glasses. When using large quantities or where heavy contamination is likely, wear: coveralls. Where an inhalation risk exists, wear: an Air-line respirator or self Contained Breathing Apparatus (SCBA).



## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|---|---|---|---|
| **Appearance** | COLOURLESS MIST | **Solubility (Water)** | 0.759 cm3/cm3 (Carbon dioxide) |
| **Odour** | FAINT FRUIT-LIKE ODOUR | **Specific Gravity** | NOT APPLICABLE |
| **pH** | NOT APPLICABLE | **% Volatiles** | 100 % |
| **Vapour Pressure** | 6300 kPa @ 25°C (Approximately) | **Flammability** | NON FLAMMABLE |
| **Vapour Density** | NOT AVAILABLE | **Flash Point** | NOT RELEVANT |
| **Boiling Point** | -78°C (Approximately) | **Upper Explosion Limit** | NOT RELEVANT |
| **Melting Point** | NOT AVAILABLE | **Lower Explosion Limit** | NOT RELEVANT |

| | | | |
|---|---|---|---|
| **Evaporation Rate** | NOT APPLICABLE | | |
| **Critical Pressure** | 7380 kPa (Approximately) | **Critical Temperature** | 31°C (Approximately) |
| **Cylinder Pressure** | 6300 kPa @ 25°C (Approximately) | **Density** | 1.53 (Air = 1) |

## 10. STABILITY AND REACTIVITY

**Chemical Stability** Stable under recommended conditions of storage.

**Conditions to Avoid** Avoid shock, friction, heavy impact, heat, sparks, open flames and other ignition sources.

**Material to Avoid** Moist carbon dioxide is corrosive, hence acid resistant materials are required (stainless steel). Certain properties of some plastics and rubbers may be affected by carbon dioxide, ie. embrittlement, leaching of plasticisers, etc. Dust of aluminium, chrome and manganese ignite and explode when heated in carbon dioxide. Incompatible with acrylaldehyde, aziridine, metal acetylides, sodium peroxide. Corrosive when moist.

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

**Hazardous Reactions** Polymerization will not occur.

## 11. TOXICOLOGICAL INFORMATION

**Health Hazard Summary** Asphyxiant gas. Severe frost-bite burns may result from exposure to cold vapour or liquid. Carbon dioxide concentrations of 3-5 % in air cause increased respiration and headache. Concentrations of 8-15% cause headache, nausea and vomiting which may lead to unconsciousness if not moved to open air and given oxygen. Inhalation of a mixture containing no oxygen may result in unconsciousness from the first breath and death may follow in minutes. Adverse health effects 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. Escaping liquid from the cylinder can form a dry ice powder like snow. Fenoxycarb is unlikely to have any adverse effects.

**Eye** Non irritant. However, direct contact with evaporating liquid may result in severe cold burns with possible permanent damage. Contact with dry ice powder could result in frostbite or cold burns.

**Inhalation** Non irritant - Asphyxiant. Effects are proportional to oxygen displacement.

**Skin** Non irritant. However, direct contact with the liquefied material or escaping compressed gas may cause frostbite injury. Skin contact with dry ice powder could result in frostbite or cold burns.

**Ingestion** Ingestion is considered unlikely due to product form. Ingestion of the dry ice powder may cause severe cold burns to mouth and throat.

**Toxicity Data**

ACETONE (67-64-1)
- LC50 (Inhalation): 44000 mg/m3/4 hours (mouse)
- LCLo (Inhalation): 1600 ppm/4 hours (rat)
- LD50 (Ingestion): 3000 mg/kg (mouse)
- LD50 (Intraperitoneal): 1297 mg/kg (mouse)
- LD50 (Intravenous): 5500 mg/kg (rat)
- LD50 (Skin): > 9400 uL/kg (guinea pig)
- LDLo (Ingestion): 8000 mg/kg (dog)
- LDLo (Intraperitoneal): 500 mg/kg (rat)
- LDLo (Intravenous): 1576 mg/kg (rabbit)
- LDLo (Skin): 20 mL/kg (rabbit)
- LDLo (Subcutaneous): 5000 mg/kg (guinea pig/dog)
- TCLo (Inhalation): 500 ppm (human)
- TDLo (Ingestion): 2857 mg/kg (man)

FENOXYCARB (72490-01-8)
- LC50 (Inhalation): > 480 mg/kg (rat)
- LD50 (Ingestion): 16,800 mg/kg (rat)
- LD50 (Skin): > 2000 mg/kg (rat)
- TDLo (Ingestion): 22,750 mg/kg/13 weeks (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.

## 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 that outlet of relief device is not obstructed.


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

| | | | | | |
|---|---|---|---|---|---|
| **Shipping Name** | INSECTICIDE GAS, N.O.S. | | | | |
| **UN No.** | 1968 | **DG Class** | 2.2 | **Subsidiary Risk(s)** | None Allocated |
| **Packing Group** | None Allocated | **Hazchem Code** | 2RE | **EPG** | 2C2 |

## 15. REGULATORY INFORMATION

**Poison Schedule** A poison schedule number has not been allocated to this product 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. The manufacturer reports that this product is registered as an agricultural chemical.

Application Method: 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.
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