

Product Name **PESTIGAS****1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER**

Supplier Name BOC LIMITED (AUSTRALIA)
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Synonym(s) 0080 - MSDS NUMBER • PRODUCT CODE: 196
Use(s) PESTICIDE • SPACE SPRAY
MSDS Date 24 Oct 2008

2. HAZARDS IDENTIFICATION

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO NOHSC 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	2TE	EPG	2C2

3. COMPOSITION/ INFORMATION ON INGREDIENTS

Ingredient	Formula	CAS No.	Content (w/w)
NAPHTHA, PETROLEUM HEAVY ALKYLATE	Not Available	64741-65-7	10%
PYRETHRUM	Not Available	8003-34-7	0.4%
CARBON DIOXIDE	CO ₂	124-38-9	87.6%
PIPERONYL BUTOXIDE	C19-H30-O5	51-03-6	2%

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 the 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 available. Keep warm and rested. 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 Ingestion is considered unlikely due to product form.

Advice to Doctor Treat for asphyxia and cold burns.

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5. FIRE FIGHTING MEASURES

Flammability	Non flammable. This material will not decompose to form hazardous products.
Fire and Explosion	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.
Extinguishing	Use water fog to cool containers from protected area.
Hazchem Code	2TE

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.
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7. STORAGE AND HANDLING

Storage	Do not store near sources of ignition or 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	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. The uncontrolled release of any gas under pressure may cause physical harm. Do not drop, roll or drag cylinders. Use a suitable hand truck for cylinder movement.

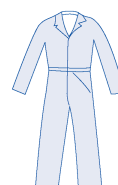
8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

Exposure Stds	Ingredient	Reference	TWA		STEL	
			ppm	mg/m3	ppm	mg/m3
	Carbon dioxide	ASCC	5000.0	9000.0	30000.0	54000.0
	Pyrethrum	ASCC	--	5.0	--	--

Biological Limits No biological limit allocated.

Engineering Controls In poorly ventilated areas, mechanical extraction ventilation is recommended. Maintain vapour levels below the recommended exposure standard. Hand held applications should commence at the furthest point from the exit and continue as the operator moves away from the spray drift towards the exit. Entry should be barred to areas in which fixed nozzle spraying occurs during spraying.

PPE When manually applying spray, wear coveralls, goggles, safety boots, gloves and a respirator (type A1, P2). Where a significant inhalation risk exists, wear Self Contained Breathing Apparatus (SCBA) or an Air-line respirator. When handling gas cylinders, the wearing of appropriate hand, eye and foot protection is recommended.



9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	COLOURLESS GAS (LIQUEFIED UNDER PRESSURE)	Solubility (Water)	0.759 cm3/cm3 (Carbon dioxide)
Odour:	CHRYSANTHEMUM-LIKE ODOUR	Specific Gravity	NOT APPLICABLE
pH	NOT APPLICABLE	% Volatiles	100 %
Vapour Pressure	6300 kPa @ 25°C (Approximately)	Flammability	NON FLAMMABLE
Boiling Point	NOT AVAILABLE	Flash Point	NOT APPLICABLE

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Melting Point	NOT AVAILABLE	Upper Explosion Limit	NOT APPLICABLE
Evaporation Rate	NOT APPLICABLE	Lower Explosion Limit	NOT APPLICABLE
Autoignition Temperature	NOT APPLICABLE		

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 gas or liquid, ie. embrittlement, leaching of plasticisers, etc. Avoid wetting surfaces which are plastic, have oil based paints, inks or similar.

Decomposition This material will not decompose to form hazardous products.

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 will follow in a few minutes. Adverse health effects to long term exposure to carbon dioxide have not been reported. Escaping liquid from the cylinder can form a dry ice powder like snow and leave a liquid residue.

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

Inhalation Non irritant - Asphyxiant. Inhalation of spray mist may result in asthmatic reactions in sensitised individuals.

Skin Non irritating. Contact with evaporating liquid (eg. cold vessels or pipes containing low pressure liquid) may result in cold burns with severe tissue damage. Skin contact with dry ice powder could result in cold burns.

Ingestion Ingestion is considered unlikely due to product form.

Toxicity Data PIPERONYL BUTOXIDE (51-03-6)
LD50 (Ingestion): 2600 mg/kg (mouse)
LD50 (Skin): 200 mg/kg (rabbit)

12. ECOLOGICAL INFORMATION

Environment increases in the atmospheric carbon dioxide levels have been linked with global warming, and hence emission of carbon dioxide into the atmosphere should be minimised as far as possible. Piperonyl butoxide is toxic to terrestrial invertebrates and aquatic organisms.

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, and that outlet of relief device is not obstructed.



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UN No.	1968	DG Class	2.2	EPG	2C2
Packing Group	None Allocated	Hazchem Code	2TE		

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 This product is used as a space spray for control of cockroaches, flies, mosquitos and fleas. It is registered in Australia as an Agricultural Chemical for use by licensed pest controllers.

APVMA Approval Number: 32661/6/0307.

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.

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 Material Safety Data Sheet ('MSDS').

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 MSDS, it does not provide

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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 MSDS.

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End of Report