

Product Name **PESTIGAS**

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Supplier name BOC LIMITED (AUSTRALIA)
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Emergency 1800 653 572 (24/7) (Australia only)
Web site <http://www.boc.com.au/>
Synonym(s) 0080 - SDS NUMBER • PRODUCT CODE: 196
Use(s) PESTICIDE • SPACE SPRAY
SDS date 07 August 2013

2. HAZARDS IDENTIFICATION

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

RISK PHRASES

None allocated

SAFETY PHRASES

None allocated

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

UN number 1968 **DG division** 2.2
Packing group None Allocated **Subsidiary risk(s)** None Allocated
Hazchem code 2TE

3. COMPOSITION/ INFORMATION ON INGREDIENTS

Ingredient	Identification	Classification	Content (v/v)
DISTILLATES (PETROLEUM), HYDROTREATED LIGHT	CAS: 64742-47-8 EC: 265-149-8	Xn;R65	10%
PYRETHRUM	CAS: 8003-34-7 EC: 232-319-8	Not Available	0.4%
CARBON DIOXIDE	CAS: 124-38-9 EC: 204-696-9	Not Available	87.6%
PIPERONYL BUTOXIDE	CAS: 51-03-6 EC: 200-076-7	Not Available	2%

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 Remove from exposure area 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. G

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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 not considered a potential route of exposure.
Advice to doctor	Treat for asphyxia and cold burns.

5. FIRE FIGHTING MEASURES

Flammability	Non flammable. Exposure to fire may cause containers to rupture/explode. This material will not evolve hazardous products on decomposition.
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 2 Water Fog (or fine water spray if fog unavailable) T Self Contained Breathing apparatus and protective gloves. E Evacuation of people in the vicinity of the incident should be considered.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	If the cylinder is leaking, evacuate area of personnel. Inform manufacturer/supplier of leak. Use personal protective equipment as detailed in Section 8 of this SDS.
Environmental precautions	Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.
Methods of cleaning up	Carefully move material to a well ventilated remote area, then allow to discharge if safe to do so. Do not attempt to repair leaking valve or cylinder safety devices.
References	See Sections 8 and 13 for exposure controls and disposal.

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	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 standards

Ingredient	Reference	TWA		STEL	
		ppm	mg/m ³	ppm	mg/m ³
Carbon dioxide	SWA (AUS)	5000	9000	30000	54000
Carbon dioxide in coal mines	SWA (AUS)	12500	22500	30000	54000
Distillates (petroleum), hydrotreated light	OEL (EU; HSPA)	--	1200	--	--
Pyrethrum	SWA (AUS)	--	5	--	--

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

Eye / Face	Wear safety glasses.
Hands	Wear leather or cotton gloves.
Body	Wear coveralls and safety boots.
Respiratory	Wear a Type A-Class P2 (Organic gases/vapours and Particulate) respirator. Where an inhalation risk exists, wear Self Contained Breathing Apparatus (SCBA) or an Air-line respirator.



9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	COLOURLESS GAS (LIQUEFIED UNDER PRESSURE)
Odour	CHRYSANTHEMUM-LIKE ODOUR
Flammability	NON FLAMMABLE
Flash point	NOT APPLICABLE
Boiling point	NOT AVAILABLE
Melting point	NOT AVAILABLE
Evaporation rate	NOT APPLICABLE
pH	NOT APPLICABLE
Vapour density	NOT AVAILABLE
Specific gravity	NOT APPLICABLE
Solubility (water)	0.759 cm ³ /cm ³ (Carbon dioxide)
Vapour pressure	6300 kPa @ 25°C (Approximately)
Upper explosion limit	NOT APPLICABLE
Lower explosion limit	NOT APPLICABLE
Partition coefficient	NOT AVAILABLE
Autoignition temperature	NOT APPLICABLE
Decomposition temperature	NOT AVAILABLE
Viscosity	NOT AVAILABLE
Explosive properties	NOT AVAILABLE
Oxidising properties	NOT AVAILABLE
Odour threshold	NOT AVAILABLE
% Volatiles	100 %

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.
Hazardous Decomposition Products	This material will not decompose to form hazardous products other than that already present.
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	Direct contact with evaporating liquid may result in cold burns, similar to frostbite injury, with possible permanent damage. Non irritating. Eye contact with dry ice powder could result in cold burns.
Inhalation	Asphyxiant. Effects are proportional to oxygen displacement. Acts as a simple asphyxiant by displacing oxygen in the lungs thereby diminishing the supply of oxygen to the blood and tissues. Inhalation of tetrahydrofuran vapours during processing may result in anaesthesia and have adverse effects on the central nervous system.

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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 CARBON DIOXIDE (124-38-9)
LC50 (inhalation) 470000 ppm/30M (rat)
LCLo (inhalation) 9 pph/5M (human)

PIPERONYL BUTOXIDE (51-03-6)
LD50 (ingestion) 2600 mg/kg (mouse)
LD50 (skin) 200 mg/kg (rabbit)
LDLo (intraperitoneal) 1000 mg/kg (mouse)
TDLo (intraperitoneal) 200 mg/kg (mouse; male; effects on fertility)

12. ECOLOGICAL INFORMATION

Toxicity When discharged to the atmosphere in large quantities, carbon dioxide may contribute to the greenhouse effect.

Persistence and degradability Not applicable.

Bioaccumulative potential Not applicable.

Mobility in soil Not applicable.

Other adverse effects 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

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



	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
UN number	1968	-	-
Proper shipping name	INSECTICIDE GAS, N.O.S.	-	-
DG class/ Division	2.2	-	-
Subsidiary risk(s)	None Allocated	-	-
Packing group	None Allocated	-	-
GTEPG	2C2		
Hazchem code	2TE		
Other information	Ensure cylinder is separated from driver and foodstuffs, and that outlet of relief device is not obstructed.		

15. REGULATORY INFORMATION

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Poison schedule A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

Inventory Listing(s) **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**
All components are listed on AICS, or are exempt.

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. 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.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this 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 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 ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

Abbreviations

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
GHS	Globally Harmonized System
IARC	International Agency for Research on Cancer
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m ³	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
PEL	Permissible Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
REACH	Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

Revision history

Revision	Description
2.2	Standard SDS Review
2.1	Standard SDS Review
2.0	Standard SDS Review.
1.0	Initial SDS creation

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Report status

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

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier 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, importer or supplier.

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 SDS