

**SAFETY DATA SHEET**

# 0013

**Product Name**     **PERMIGAS (NZ)****1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER**

<b>Supplier Name</b>	<b>BOC LIMITED (NEW ZEALAND)</b>
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<b>Synonym(s)</b>	0013 - SDS NUMBER • PRODUCT CODE: 122 • SYNERGISED NATURAL AND SYNTHETIC PYRETHRINS INSECTICIDE
<b>Use(s)</b>	INSECTICIDE • PESTICIDE
<b>SDS Date</b>	21 Oct 2010

**2. HAZARDS IDENTIFICATION****CLASSIFIED AS HAZARDOUS ACCORDING TO HAZARDOUS SUBSTANCES [CLASSIFICATION] REGULATIONS 2001****HSNO CLASSIFICATION**

6.5A	Substances that are respiratory sensitisers.
6.5B	Substances that are contact sensitisers.
9.1A	Substances that are very ecotoxic in the aquatic environment.
9.4B	Substances that are ecotoxic to terrestrial invertebrates.

**HAZARD STATEMENT**

H317	May cause an allergic skin reaction.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H442	Toxic to terrestrial invertebrates.

**PREVENTION STATEMENT**

P103	Read label before use (applies only where the substance is available to the general public).
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment. This statement does not apply where this is the intended use.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P285	In case of inadequate ventilation wear respiratory protection.

**RESPONSE STATEMENT**

P321	Specific treatment is advised - see first aid instructions.
P363	Wash contaminated clothing before reuse.
P391	Collect spillage.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.

**Product Name**     **PERMIGAS (NZ)**

P304 + P341            IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing.

P333 + P313            If skin irritation or rash occurs: Get medical advice/attention.

P342 + P311            If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

**DISPOSAL STATEMENT**

P501                      In the case of a substance that is in compliance with a HSNO approval other than a Part 6A (Group Standards) approval, a label must provide a description of one or more appropriate and achievable methods for the disposal of a substance in accordance with the Hazardous Substances (Disposal) Regulations 2001. This may also include any method of disposal that must be avoided.

**CLASSIFIED AS A DANGEROUS GOOD ACCORDING TO LAND TRANSPORT RULE: DANGEROUS GOODS 2005; NZS 5433:2007, UN, IMDG OR IATA**

**UN No.**                1968                      **DG Class**            2.2                      **Subsidiary Risk(s)**   None Allocated

**Packing Group**    None Allocated            **Hazchem Code**    2TE

**3. COMPOSITION/ INFORMATION ON INGREDIENTS**

Ingredient	CAS No.	Content
PERMETHRIN	52645-53-1	0.4%
PYRETHRIN II	121-29-9	0.1%
CARBON DIOXIDE	124-38-9	90%
SOLVENT NAPHTHA, LIGHT ALIPHATIC	64742-89-7	9%
PIPERONYL BUTOXIDE	51-03-6	0.5%

**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.

**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**                Not considered a potential route of exposure.

**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.

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**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

**Product Name PERMIGAS (NZ)**

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	
Carbon dioxide	WES (NZ)	5000 ppm	9000 mg/m <sup>3</sup>	30000 ppm	54000 mg/m <sup>3</sup>

PYRETHRIN II

ES-STEL : 10 mg/m<sup>3</sup>**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. It is recommended to maximise the effectiveness of this product, that it should be applied with artificial and natural ventilation closed. 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. Ventilation should be re-opened 2 hours after spraying has ceased.

**PPE**

Wear safety boots, cotton or leather gloves and safety glasses. Where an inhalation risk exists, wear: self Contained Breathing Apparatus (SCBA) or an Air-line respirator.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	MIXTURE FORMS MICRON SIZED AEROSOL PARTICLES WHEN RELEASED INTO AIRSPACE	<b>Solubility (water)</b>	0.14 %
<b>Odour</b>	SLIGHT ODOUR	<b>Specific Gravity</b>	NOT APPLICABLE
<b>pH</b>	NOT APPLICABLE	<b>% Volatiles</b>	100 %
<b>Vapour Pressure</b>	5500 kPa @ 15°C	<b>Flammability</b>	NON FLAMMABLE
<b>Vapour Density</b>	1.53 (Air = 1)	<b>Flash Point</b>	NOT RELEVANT
<b>Boiling Point</b>	-78.5°C	<b>Upper Explosion Limit</b>	NOT RELEVANT
<b>Melting Point</b>	NOT AVAILABLE	<b>Lower Explosion Limit</b>	NOT RELEVANT
<b>Evaporation Rate</b>	NOT APPLICABLE		

**10. STABILITY AND REACTIVITY**

<b>Chemical Stability</b>	Stable under recommended conditions of storage.
<b>Conditions to Avoid</b>	Avoid shock, friction, heavy impact, heat, sparks, open flames and other ignition sources.
<b>Material to Avoid</b>	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.
<b>Hazardous Decomposition Products</b>	May evolve toxic gases if heated to decomposition.
<b>Polymerization</b>	Polymerization will not occur.

## 11. TOXICOLOGICAL INFORMATION

<b>Health Hazard Summary</b>	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 and leave a liquid residue.
<b>Eye</b>	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.
<b>Inhalation</b>	Non irritant - Asphyxiant. Effects are proportional to oxygen displacement. Inhalation of spray mist may result in asthmatic reactions in sensitised individuals.
<b>Skin</b>	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.
<b>Ingestion</b>	Ingestion is considered unlikely due to product form. Solid carbon dioxide will cause cold burns to mouth and throat.
<b>Toxicity Data</b>	PERMETHRIN (52645-53-1) LC50 (Inhalation): 485 mg/m <sup>3</sup> (rat) LD50 (Ingestion): 383 mg/kg (rat) LD50 (Intraperitoneal): 429 mg/kg (mouse) LD50 (Intravenous): 31 mg/kg (mouse) LD50 (Skin): 1750 mg/kg (rat) LD50 (Subcutaneous): 6600 mg/kg (rat) PYRETHRIN II (121-29-9) LD50 (Ingestion): 200 mg/kg (rat) LDLo (Ingestion): 750 mg/kg child (15g death) TDLo (Ingestion): 500 mg/kg(6-15D preg rat) REP 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

<b>Environment</b>	When discharged to the atmosphere, carbon dioxide may contribute to the greenhouse effect.
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## 13. DISPOSAL CONSIDERATIONS

<b>Waste Disposal</b>	Cylinders should be returned to the manufacturer or supplier for disposal of contents.
<b>Legislation</b>	Dispose of in accordance with relevant local legislation.

## 14. TRANSPORT INFORMATION

<b>Transport</b>	Ensure cylinder is separated from driver and that outlet of relief device is not obstructed. Wherever possible use open vehicles or trailers. If cylinder must be carried in an enclosed van or car ensure good ventilation at all times by: a) Using a compartment within the vehicle permanently vented to the outside but sealed from the rest of the vehicle's interior, or b) Opening the vehicle's windows (this is not a preferred method). NOTE: A car boot would not normally be a ventilated compartment. All cylinders must be carried secured firmly so that they cannot move in transit. They must be carried wholly within the vehicle. Cylinders must be protected against damage from other cargo, particularly the valves. Unload the cylinders as soon as possible and move them to a well ventilated area. Do not store cylinders in an enclosed vehicle overnight or for periods longer than one hour. Do not use cylinders in a closed vehicle. Never transport cylinders with equipment attached unless the cylinder valve is shut and the cylinders are secured.
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**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** 2TE

**IATA**

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**IMDG**

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**UN No.** 1968 **DG Class** 2.2 **Subsidiary Risk(s)** None Allocated  
**Packing Group** None Allocated

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**15. REGULATORY INFORMATION**

**Approval Code** HSR002535  
**Group Name** Compressed Gases (Subsidiary Hazard) Group Standard 2006  
**HSNO Controls** Refer to the ERMA website for more information: [www.ermanz.govt.nz](http://www.ermanz.govt.nz)

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**16. OTHER INFORMATION**

**Additional Information** This product is an insecticide used in the control of insects in domestic and commercial use.  
APPLICATION METHOD: Permigas must be dispensed with the correct high equipment using either a manual or automatic spray kit.  
ABBREVIATIONS:  
ACGIH - American Conference of Industrial Hygienists.  
ADG - Australian Dangerous Goods.  
BEI - Biological Exposure Indice(s).  
CAS# - Chemical Abstract Service number - used to uniquely identify chemical compounds.  
CNS - Central Nervous System.  
EC No - European Community Number.  
HSNO - Hazardous Substances and New Organisms.  
IARC - International Agency for Research on Cancer.  
mg/m3 - Milligrams per Cubic Metre.  
NOS - Not Otherwise Specified.  
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.  
STEL - Short Term Exposure Limit.  
SWA - Safe Work Australia.  
TWA - Time Weighted Average.  
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

**Product Name**     **PERMIGAS (NZ)**

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**