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## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

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### 1.1 Product identifier

**Product name** PERMIGAS (NZ)  
**Synonym(s)** 0013 - SDS NUMBER • PRODUCT CODE: 122 • SYNERGISED NATURAL AND SYNTHETIC PYRETHRINS INSECTICIDE

### 1.2 Uses and uses advised against

**Use(s)** INSECTICIDE • PESTICIDE  
This product is an insecticide used in the control of insects in domestic and commercial use.

### 1.3 Details of the supplier of the product

**Supplier name** BOC LIMITED (NEW ZEALAND)  
**Address** 988 Great South Road, Penrose, Auckland, NEW ZEALAND  
**Telephone** +64 9 525 5600  
**Fax** +64 9 525 7889  
**Email** [customer.servicenz@boc.com](mailto:customer.servicenz@boc.com)  
**Website** <http://www.boc.co.nz>

### 1.4 Emergency telephone number(s)

**Emergency** 0800 111 333 (NZ only)

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## 2. HAZARDS IDENTIFICATION

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### 2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO HAZARDOUS SUBSTANCES [CLASSIFICATION] REGULATIONS 2001

#### HSNO classification(s)

6.5A Substances that are respiratory sensitisers.  
6.5B Substances that are contact sensitisers.  
9.1A (H400) Substances that are very ecotoxic in the aquatic environment.  
9.4B Substances that are ecotoxic to terrestrial invertebrates.

### 2.2 Label elements

**Signal word** DANGER

#### Pictogram(s)



#### Hazard statement(s)

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.  
H442 Toxic to terrestrial invertebrates.

**PRODUCT NAME PERMIGAS (NZ)****Prevention statement(s)**

P103	Read label before use.
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.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P285	In case of inadequate ventilation wear respiratory protection.

**Response statement(s)**

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.
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.

**Storage statement(s)**

None allocated.

**Disposal statement(s)**

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.
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**2.3 Other hazards**

No information provided.

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**3. COMPOSITION/ INFORMATION ON INGREDIENTS**

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**3.1 Substances / Mixtures**

Ingredient	CAS Number	EC Number	Content
CARBON DIOXIDE	124-38-9	204-696-9	90%
PIPERONYL BUTOXIDE	51-03-6	200-076-7	0.5%
PERMETHRIN	52645-53-1	258-067-9	0.4%
PYRETHRIN II	121-29-9	204-462-6	0.1%
SOLVENT NAPHTHA	64742-89-7	-	9%

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**4. FIRST AID MEASURES**

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**4.1 Description of first aid measures**

<b>Eye</b>	Cold burns: Immediately flush with tepid water or with sterile saline solution. Hold eyelids apart and irrigate for 15 minutes. Seek medical attention.
<b>Inhalation</b>	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.
<b>Skin</b>	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.
<b>Ingestion</b>	Ingestion is not considered a potential route of exposure.
<b>First aid facilities</b>	None allocated.

**4.2 Most important symptoms and effects, both acute and delayed**

In high concentrations may cause asphyxiation. Symptoms may include loss of mobility / consciousness. Victim may not be aware of asphyxiation. Low concentrations of CO<sub>2</sub> cause increased respiration and headache.

**4.3 Immediate medical attention and special treatment needed**

Treat for asphyxia and cold burns.

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**5. FIRE FIGHTING MEASURES**

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### 5.1 Extinguishing media

Use water fog to cool containers from protected area.

### 5.2 Special hazards arising from the substance or mixture

Non flammable. Exposure to fire may cause containers to rupture/explode.

### 5.3 Advice for firefighters

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.

### 5.4 Hazchem code

2TE

2 Fine Water Spray.

T Wear full fire kit and breathing apparatus. Dilute spill and run-off.

E Evacuation of people in and around the immediate vicinity of the incident should be considered.

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## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

If the cylinder is leaking, evacuate area of personnel. Inform manufacturer/supplier of leak. Use Personal Protective Equipment (PPE) as detailed in Section 8 of the SDS.

### 6.2 Environmental precautions

Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.

### 6.3 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.

### 6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.

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## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe 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.

### 7.2 Conditions for safe storage, including any incompatibilities

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.

### 7.3 Specific end use(s)

No information provided.

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

#### Exposure standards

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

#### Biological limits

No biological limit values have been entered for this product.

**8.2 Exposure controls**

**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**

<b>Eye / Face</b>	Wear safety glasses.
<b>Hands</b>	Wear leather or cotton gloves.
<b>Body</b>	Wear coveralls and safety boots.
<b>Respiratory</b>	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.



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**9. PHYSICAL AND CHEMICAL PROPERTIES**

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**9.1 Information on basic physical and chemical properties**

<b>Appearance</b>	MIXTURE FORMS MICRON SIZED AEROSOL PARTICLES WHEN RELEASED INTO AIRSPACE
<b>Odour</b>	SLIGHT ODOUR
<b>Flammability</b>	NON FLAMMABLE
<b>Flash point</b>	NOT RELEVANT
<b>Boiling point</b>	-78.5°C
<b>Melting point</b>	NOT AVAILABLE
<b>Evaporation rate</b>	NOT APPLICABLE
<b>pH</b>	NOT APPLICABLE
<b>Vapour density</b>	1.53 (Air = 1)
<b>Specific gravity</b>	NOT APPLICABLE
<b>Solubility (water)</b>	0.14 %
<b>Vapour pressure</b>	5500 kPa @ 15°C
<b>Upper explosion limit</b>	NOT RELEVANT
<b>Lower explosion limit</b>	NOT RELEVANT
<b>Partition coefficient</b>	NOT AVAILABLE
<b>Autoignition temperature</b>	NOT AVAILABLE
<b>Decomposition temperature</b>	NOT AVAILABLE
<b>Viscosity</b>	NOT AVAILABLE
<b>Explosive properties</b>	NOT AVAILABLE
<b>Oxidising properties</b>	NOT AVAILABLE
<b>Odour threshold</b>	NOT AVAILABLE

**9.2 Other information**

<b>% Volatiles</b>	100 %
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**10. STABILITY AND REACTIVITY**

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**10.1 Reactivity**

Unreactive under normal conditions.

**10.2 Chemical stability**

Stable under recommended conditions of storage.

**10.3 Possibility of hazardous reactions**

Polymerization will not occur.

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**10.4 Conditions to avoid**

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

**10.5 Incompatible materials**

Moist carbon dioxide is corrosive, hence acid resistant materials are required (e.g. stainless steel). Certain properties of some plastics and rubbers may be affected by carbon dioxide (i.e. 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.

**10.6 Hazardous decomposition products**

This material will not decompose to form hazardous products other than that already present.

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**11. TOXICOLOGICAL INFORMATION**

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**11.1 Information on toxicological effects**

**Acute toxicity** Based on available data, the classification criteria are not met. Low concentrations of carbon dioxide cause increased respiration and headache.

**Information available for the ingredient(s):**

Ingredient	Oral Toxicity (LD50)	Dermal Toxicity (LD50)	Inhalation Toxicity (LC50)
CARBON DIOXIDE	--	--	470000 ppm/30M (rat)
PIPERONYL BUTOXIDE	2600 mg/kg (mouse)	200 mg/kg (rabbit)	--
PERMETHRIN	383 mg/kg (rat)	1750 mg/kg (rat)	485 mg/m <sup>3</sup> (rat)
PYRETHRIN II	200 mg/kg (rat)	--	--

**Skin** Not classified as a skin irritant. Contact with the liquefied material or escaping compressed gas may cause frostbite injury.

**Eye** Not classified as an eye irritant. Contact with the liquefied material may cause frostbite injury.

**Sensitisation** Not classified as causing skin or respiratory sensitisation.

**Mutagenicity** Not classified as a mutagen.

**Carcinogenicity** Not classified as a carcinogen.

**Reproductive** Not classified as a reproductive toxin.

**STOT - single exposure** Asphyxiant. Effects are proportional to oxygen displacement. Over exposure may result in dizziness, drowsiness, weakness, fatigue, breathing difficulties and unconsciousness.

**STOT - repeated exposure** Not classified as causing organ damage from repeated exposure.

**Aspiration** Not classified as causing aspiration.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

Very toxic to aquatic life with long lasting effects.

### 12.2 Persistence and degradability

Not applicable.

### 12.3 Bioaccumulative potential

Not applicable.

### 12.4 Mobility in soil

Not applicable.

### 12.5 Other adverse effects

When discharged to the atmosphere, carbon dioxide may contribute to the greenhouse effect. Toxic to terrestrial invertebrates.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**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 ACCORDING TO LAND TRANSPORT RULE: DANGEROUS GOODS 2005; NZS 5433:2012, UN, IMDG OR IATA



	LAND TRANSPORT (NZS 5433)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
<b>14.1 UN Number</b>	1968	1968	1968
<b>14.2 Proper Shipping Name</b>	INSECTICIDE GAS, N.O.S.	INSECTICIDE GAS, N.O.S.	INSECTICIDE GAS, N.O.S.
<b>14.3 Transport hazard class</b>	2.2	2.2	2.2
<b>14.4 Packing Group</b>	None allocated.	None allocated.	None allocated.

### 14.5 Environmental hazards

Marine Pollutant

### 14.6 Special precautions for user

**Hazchem code** 2TE

**EMS** F-C, S-V

#### Other information

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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## 15. REGULATORY INFORMATION

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### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Approval code	HSR002535
Group standard	Compressed Gases (Subsidiary Hazard) Group Standard 2006
Inventory listing(s)	<b>NEW ZEALAND: NZIoC (New Zealand Inventory of Chemicals)</b> All components are listed on the NZIoC inventory, or are exempt.

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## 16. OTHER INFORMATION

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**Additional information** APPLICATION METHOD: Permigas must be dispensed with the correct high equipment using either a manual or automatic spray kit.

#### PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, 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: form of product; 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 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
CCID	Chemical Classification and Information Database (HSNO)
CNS	Central Nervous System
EC No.	EC No - European Community Number
EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
EPA	Environmental Protection Authority [New Zealand]
GHS	Globally Harmonized System
HSNO	Hazardous Substances and New Organisms
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m <sup>3</sup>	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (highly acidic) to 14 (highly alkaline).
ppm	Parts Per Million
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
TLV	Threshold Limit Value
TWA	Time Weighted Average

**PRODUCT NAME PERMIGAS (NZ)**

**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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