SAFETY DATA SHEET

Section 1. Identification of the material and the supplier

Product:	**Bromic R290 (Propane) Cylinder 370g**
Part Number:	1811226
Product Use:	Refrigerant
Restriction of Use in NZ:	Refer to Section 15
Australian Supplier:	**Bromic Pty Ltd (ABN 88 001 648 979)** 10 Phiney Place Ingleburn, NSW, 2565, Australia
Tel:	+61 2 9426 5224
Australian Emergency No	**+61 2 9426 5224 (24/7)**
New Zealand Supplier:	**Bromic Group**
Address:	Malcolm Total Logistics Auckland 39 Richard Pearse Drive Airport Oaks, Mangere, 2022
Telephone:	0508 276 642
Emergency No:	**0508 276 642** **0800 764 766 (National Poison Centre)**
Date of SDS Preparation:	20 July 2021

Section 2. Hazards Identification

Australia:
Classified as Hazardous according to the Globally Harmonised System of Classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia

New Zealand:
This substance is hazardous according to the EPA Hazardous Substances (Classification) Notice 2020

EPA Approval No: Gases under Pressure Mixtures (Flammable) – HSR002532

Pictograms

Signal Word: **DANGER**

GHS Classification and Category	Hazard Code	Hazard Statement
Flammable gas Cat. 1A	H220	Extremely flammable gas.
Liquefied Gas	H280	Contains Gas under pressure; may explode if heated

Prevention Code	Prevention Statement
P103	Read label before use.
P210	Keep away from heat, sparks, open flames or hot surfaces. No smoking.

Response Code	Response Statement
P377	Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381	Eliminate all ignition sources if safe to do so.

Storage Code	Storage Statement
P403	Store in a well-ventilated place.

Disposal Code	Disposal Statement
P501	Dispose of according to Local Regulations or Authorities

Section 3. Composition / Information on Hazardous Ingredients

Ingredients	Wt%	CAS NUMBER.
Propane (HC R290)	100%	74-98-6

Section 4. First Aid Measures

General — If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.
Notes to physician Do not give adrenaline or similar drugs.

If in Eyes — Immediately flush eyes with a large amount of water for at least 15 minutes. If symptoms exist and/or persist, get prompt medical attention.

If on Skin — Dermal contact with rapidly evaporating liquid could result in freezing of the tissues or frostbite. In case of contact with liquid, warm frozen tissues with water and get medical attention. Remove contaminated clothing and shoes. Wash clothing before reuse.

If Swallowed — Risk of ingestion is extremely low. As this product is a gas, refer to the inhalation section. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

If Inhaled — In high concentrations may cause asphyxiation. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation. In low concentrations may cause narcotic effects. Symptoms may include dizziness, headache, nausea and loss of co-ordination. Remove victim to uncontaminated area wearing self-contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.

Most important symptoms and effects, both acute and delayed
Symptoms: No data available.

Treatment: Do not give adrenaline or similar drugs.

Section 5. Fire Fighting Measures

Hazard Type	Flammable Gas
Hazards from combustion products	Incomplete combustion may form carbon monoxide. Move away from the container and cool with water from a protected position. Do not extinguish a leaking gas flame unless absolutely necessary. Spontaneous.
Suitable	All known extinguishers can be used. Do not use water jet.

Extinguishing media	
Precautions for firefighters and special protective clothing	Fire-fighters should wear self-contained positive pressure breathing apparatus (SCBA) and full turnout gear.
HAZCHEM CODE	**2YE**

Section 6. Accidental Release Measures

Personal precautions:
Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment (Section 8). Provide adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.

Spill and Disposal procedures:
Stop leak if without risk. Spillages may evaporate rapidly.

Section 7. Handling and Storage

Precautions for Handling:

- Keep container below 50°C in a well ventilated place.

Precautions for Storage:

- Store in original container, protected from direct sunlight.
- Keep container tightly closed in a cool, well- ventilated place.
- Segregate from oxidant gases and other oxidants in store.
- Ensure equipment is adequately earthed. Suck back of water into the container must be prevented.
- Purge air from system before introducing gas.
- Do not allow backfeed into the container.
- Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt.
- Keep away from ignition sources (including static discharges).
- Refer to supplier's container handling instructions.

Section 8 Exposure Controls / Personal Protection

WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

	TWA		STEL	
Substance	**ppm**	**mg/m³**	**ppm**	**mg/m³**

No ingredients have exposure limits

Workplace Exposure Standard – Time Weighted Average (WES-TWA). The time-weighted average exposure standard designed to protect the worker from the effects of long-term exposure. Workplace Exposure Standard – Short-Term Exposure Limit (WESSTEL). The 15-minute average exposure standard. Applies to any 15- Minute period in the working day and is designed to protect the worker against adverse effects of irritation, chronic or irreversible tissue change, or narcosis that may increase the likelihood of accidents. The WES-STEL is not an alternative to the WES-TWA; both the short-term and time-weighted average exposures apply. Workplace Exposure Standards and Biological Exposure Indices NOV 2020 12TH EDITION.

Engineering Controls
Provide adequate ventilation. Do not enter storage areas and confined spaces unless adequately ventilated.

Personal Protection Equipment

Eyes	Recommended: safety glasses with side shields, splash goggles. Possible: face shield.
Hands	Insulated gloves suitable for low temperatures. Recommended: butyl rubber
Skin	Protective clothing should be worn to prevent skin contact.
Respiratory	In case of insufficient ventilation, wear suitable respiratory equipment. Recommended: supplied-air respirator.

Section 9 Physical and Chemical Properties

Appearance	Liquefied Gas
Colour	Colourless
Odour	Odourless
Odour Threshold	Not available
pH	Not available
Boiling Point	- 42 °C @ 1 bar
Melting Point	- 187 °C @ 1 bar
Freezing Point	Not available
Flash Point	Not available
Flammability	Not available
Upper and Lower Explosive Limits	low 2.37-high 9.50 In air at 1 bar (% vol)
Vapour Pressure	Not available
Vapour Density	Not available
Relative Density	0.5 g/cm3 a 20°C
Water Solubility	0.04 g/100ml a 25°C a 1013 hPa
Partition Coefficient:	Not available
Auto-ignition Temperature	468 °C
Decomposition Temperature	Not available
Kinematic Viscosity	Not available
Particle Characteristics	Not available
Molecular weight	44.1
Critical Point	96.5^0C

Section 10. Stability and Reactivity

Stability of Substance	This product is stable under normal conditions.
Possibility of hazardous reactions	No data available.
Conditions to Avoid	In a fire or if heated, a pressure increase will occur and the container may burst. Pressurised container: protect from sunlight and do not expose to temperature exceeding 50°C. Do not pierce or burn, even after use.
Incompatible Materials	May react violently with oxidants.
Hazardous Decomposition Products	These products are carbon oxides CO, CO2

Section 11 Toxicological Information

Acute Effects:

Swallowed	Not triggered.
Dermal	Not triggered. Dermal contact with rapidly evaporating liquid could result in freezing of the tissues or frostbite. Slightly irritating to the skin.
Inhalation	Not triggered. Heartbeat irregularity (arrhythmia).
Eye	Not triggered. Slightly irritating to the eyes.
Skin	Not triggered.

Chronic Effects:

Carcinogenicity	Not triggered.
Reproductive Toxicity	Not triggered.
Germ Cell Mutagenicity	Not triggered.
Aspiration	Not triggered.
STOT/SE	Not triggered.
STOT/RE	Not triggered.

Section 12. Ecotoxicological Information

This product is not hazardous to the environment.

Persistence and degradability	- **ODP :** 0 - **GWP :3**
Bioaccumulation	No data available.
Mobility in Soil	No data available.
Other adverse effects	No data available.

Section 13. Disposal Considerations

Disposal Method: Dispose of according to local Regulations.

Precautions or methods to avoid: None known.

Section 14 Transport Information

This product is classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code) (7th edition).

This product is classified as a Dangerous Good for transport in NZ; NZS 5433:2012

Road and Rail Transport

UN No:	1978
Class-primary	2.1
Proper Shipping Name:	PROPANE

Air Transport

UN No:	1978
Class-primary	2.1
Proper Shipping Name:	PROPANE

Marine Transport

UN No:	1978
Class-primary	2.1
Proper Shipping Name:	PROPANE
Marine pollutant:	No

Section 15 Regulatory Information

Australia:
Classified as Hazardous according to the Globally Harmonised System of Classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia.

Not classified as a Scheduled Poison according to the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

New Zealand:
This substance is classified hazardous according to the EPA Hazardous Substances (Classification) Notice 2020

EPA Approval Code: **Gases under Pressure Mixtures (Flammable) – HSR002532**

GHS Classification and Category
Flammable gas Cat. 1A

HSW (HS) Regulations 2017 and EPA Notices	**Trigger Quantity**
Certified Handler	Not required
Location Certificate	100kg
Tracking Trigger Quantities	Not required
Signage Trigger Quantities	250kg
Emergency Response Plan	300kg
Secondary Containment	300kg
Restriction of Use	Only use for the intended purpose.

Section 16 Other Information

Glossary

Cat	Category
EC_{50}	Median effective concentration.
EEL	Environmental Exposure Limit.
EPA	Environmental Protection Authority
HSNO	Hazardous Substances and New Organisms.
HSW	Health and Safety at Work.
LC_{50}	Lethal concentration that will kill 50% of the test organisms inhaling or ingesting it.
LD_{50}	Lethal dose to kill 50% of test animals/organisms.
LEL	Lower explosive level.
OSHA	American Occupational Safety and Health Administration.
TEL	Tolerable Exposure Limit.
TLV	Threshold Limit Value-an exposure limit set by responsible authority.
UEL	Upper Explosive Level
WES	Workplace Exposure Limit

References:
Australia:

1. Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice.
2. Standard for the Uniform Scheduling of Medicines and Poisons.
3. Australian Code for the Transport of Dangerous Goods by Road & Rail.
4. Model Work Health and Safety Regulations, Schedule 10: Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.
5. Workplace exposure standards for airborne contaminants, Safe work Australia.
6. American Conference of Industrial Hygienists (ACGIH).
7. Globally Harmonised System of classification and labelling of chemicals.

New Zealand:

1. EPA Hazardous Substances (Safety Data Sheets) Notice 2017
2. Workplace Exposure Standards and Biological Exposure Indices Nov 2017 edition.
3. Assigning a hazardous substance to a HSNO Approval (Aug 2013).
4. Transport of Dangerous goods on land NZS 5433:2012
5. HSW (Hazardous Substances) Regulations 2017

Disclaimer

This document has been prepared by TCC (NZ) Ltd and serves as the suppliers Safety Data Sheet ('SDS'). It is based on information concerning the product which has been provided to TCC (NZ) Ltd 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 TCC (NZ) have 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, TCC (NZ) Ltd accept 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

The information herein is given in good faith, but no warranty, express or implied is made.

Please contact the Australian Manufacturer or New Zealand distributor, if further information is required.

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