# SAFETY DATA SHEET

## Section 1. Identification of the material and the supplier

| | |
|---|---|
| Product: | **Bromic R600a (Propane) Aluminium Cylinder 420g** |
| Part Number: | 18112267 |
| Product Use: | Refrigerant gas for refrigeration and air-conditioners systems |
| Restriction of Use in NZ: | Refer to Section 15 |
| **Australian Supplier:** | **Bromic Pty Ltd (ABN 88 001 648 979)**<br>10 Phiney Place<br>Ingleburn, NSW, 2565, Australia |
| Tel: | 1300 276 642 |
| **Australian Emergency No** | **13 11 26 (National Poison Centre)** |
| **New Zealand Supplier:** | **Bromic Pty Ltd** |
| Address: | 259 James Fletcher Drive<br>Otahuhu<br>Auckland, 2024 |
| Telephone: | 0508 276 642 |
| **Emergency No:** | **0800 764 766 (National Poison Centre)** |
| Date of SDS Preparation: | 10 June 2026 v2 |

## 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 carefully and follow all instructions. |
| P202 | Do not handle until all safety precautions have been read and understood. |
| P210 | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |

| Response Code | Response Statement |
|---|---|
| P377 | Leaking gas fire: Do not extinguish, unless leak can be stopped safely. |
| P381 | In case of leakage, eliminate all ignition sources. |

| Storage Code | Storage Statement |
|---|---|
| P410 + P403 | Protect from sunlight. 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. |
|---|---|---|
| Isobutane | >97% | 75-28-5 |

## Section 4. First Aid Measures

General Information: If the person is unconscious, place it in the recovery position and get immediately medical attention. Do not give anything to an unconscious person. If breathing is irregular, give oxygen. If breathing stopped, administer artificial respiration. If symptoms persist, call a physician. **Note to physician**: Do not give adrenaline-ephedrine or similar drugs group.

If in Eyes: Remove contact lenses, if present. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.

If on Skin: In case of contact with skin, wash immediately with plenty of water. Remove contaminated clothing. If irritation or blistering occurs, call a physician

If Swallowed: Unlikely route of exposure. As this product is a gas, refer to the section "Inhalation". Do not induce vomiting without medical advice. Obtain immediate medical attention.

If Inhaled: Remove person to fresh air. Remove contaminated clothing and loosen remaining clothing. Allow person to assume most comfortable position and keep warm. Administer oxygen if necessary. Keep at rest until fully recovered. Apply artificial respiration if not breathing. Get medical advice if breathing becomes difficult.

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

Symptoms: 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.

Treatment: Do not give adrenaline-ephedrine or similar drugs group. Treat symptomatically.

## Section 5. Fire Fighting Measures

| | |
|---|---|
| **Hazard Type** | Flammable Gas |
| **Hazards from combustion products** | Vapours are heavier than air and can cause rapid suffocation by reducing oxygen available for breathing. In case of fire, decomposition products may include the following materials: carbon dioxide and monoxide. |
| **Suitable Extinguishing media** | Dry powder, water spray, alcohol-resistant foam and CO2<br>Do not use highwater jet. |
| **Precautions for firefighters and special protective clothing** | Firefighters must use standard protective equipment including SCBA.<br>Avoid contact with eyes and skin. Do breathe the fumes. Coordinate fire measure to the surrounding fire.<br>Exposure to flames and heat can cause the container to rupture.<br>From protected position, cool endangered containers with water spray jet. Do not discharge contaminated water into drains.<br>If possible, stop flow of the product.<br>If possible, use water spray to knock down the fumes.<br>Explosive re-ignition may occur, turn off all the other fire.<br>Move containers from fire area if this can be done without risk.<br><br>On heating: heating will cause a rise in pressure with a risk of bursting.<br>Toxic and corrosive vapours are released.<br>Cool down the containers exposed to heat with a water spray. |
| **HAZCHEM CODE** | **2T** |

## Section 6. Accidental Release Measures

**Personal precautions:**
Refer to Section 8 for PPE requirements. Evacuate area of unnecessary personnel. Remove all sources of ignition. Avoid contact with skin (possible frostbite).
Ventilate the area/local. In case of insufficient ventilation, wear self-contained breathing apparatus.

**Environmental precautions:**
Do not allow product to spread into the environment. Avoid spillage and prevent possible losses.

**Spill and Disposal procedures:**
Ventilate/aerate the area/local.
Let the evaporation of the product. Take into consideration that the vapours are heavier than air.

## Section 7. Handling and Storage

**Precautions for Handling:**

- Use only properly specified equipment that is suitable for this product, its supply pressure and temperature. In case of doubt, refer to supplier's handling instructions.
- Only experienced and properly instructed persons should handle gases under pressure.
- Service technician must check regularly your entire gas system to ensure that it is leak-free.
- Read label before use.
- Keep away from heat, sparks, open flames or hot surfaces. No smoking.
- Handle and open container with care. Caution when opening, pressurized container.
- Protect from sunlight and do not expose to temperatures exceeding 50° C.
- Do not spray on a naked flame or any incandescent material.
- Do not use in area without adequate ventilation.
- Protect containers from physical damage; do not drag, roll, slide or drop.
- Do not pierce or burn, even after use.
- Leave valve protection caps in place until the container is ready for use.
- Close container valve after each use and when empty, even if still connected to equipment.

- Do not remove or deface labels provided by the supplier for the identification of the container contents.
- Ensure adequate ventilation of the working area.

**Precautions for Storage:**

- Avoid storage with oxidizing products, acids and, in general, with chemicals.
- Avoid storage with tools or equipment that may cause sparks.
- Keep containers tightly closed in a dry, cool and well-ventilated place, away from any ignition or heat sources. Store in original container.
- Container valves or caps should be in place.

## Section 8 Exposure Controls / Personal Protection

**WORKPLACE EXPOSURE STANDARDS (provided for guidance only)**

| Substance | TWA ppm | TWA $mg/m^3$ | STEL ppm | STEL $mg/m^3$ |
|---|---|---|---|---|

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 FEB 2025 15TH EDITION.

**Engineering Controls**

Ensure adequate ventilation. In case of insufficient ventilation, wear self-contained breathing apparatus.

**Personal Protection Equipment**

| | |
|---|---|
| **Eyes** | Safety glasses with side-shields (according to directive EN 166). |
| **Hands** | It is recommended to use protective gloves against cold (EN 511).<br>The penetration time of the gloves must be greater than the period of expected use. Gloves should be replaced immediately if they show signs of wear or deterioration. |
| **Skin** | Evaluate the need for flame resistant workwear.<br>EN ISO 14116 Protective clothing - Protection against heat and flame – Limited flame spread materials.<br>EN ISO 1149-5 Protective clothing – Electrostatic properties. Wear safety shoes while handling containers.<br>EN ISO 20345 Personal protective equipment - Safety shoes. Apron or protective clothing are not necessary. |
| **Respiratory** | The vapours are heavier than air and can cause asphyxia caused to an reduction of oxygen level. In case of<br>insufficient ventilation, wear self-contained breathing apparatus (EN 133). |

## Section 9 Physical and Chemical Properties

| | |
|---|---|
| **Appearance** | Liquefied Gas |
| **Colour** | Colourless |
| **Odour** | Odourless |
| **Odour Threshold** | Odour threshold is subjective and is inadequate to warn of over exposure. |
| **pH** | Not available |
| **Boiling Point** | - 11,73° C @ 1013 hPa (experimental result, supporting study) |
| **Melting Point** | - 182,47 °C (experimental result, supporting study) |

| | |
|---|---|
| **Freezing Point** | Not available |
| **Flash Point** | - 88,6° C |
| **Flammability** | Not available |
| **Upper and Lower Explosive Limits** | 12,5 % (V) (experimental result, supporting study) / 1,50 % (V) |
| **Vapour Pressure** | 2.200 Pa @ 20° C |
| **Vapour Density** | 2,01 (air = 1) |
| **Relative Density** | 0,59 |
| **Water Solubility** | 54 mg/l |
| **Partition Coefficient:** | 2,76 log Kow |
| **Auto-ignition Temperature** | 287 °C (experimental result, supporting study) |
| **Decomposition Temperature** | Not available |
| **Kinematic Viscosity** | Not available |
| **Particle Characteristics** | Not available |
| **Other information:**<br>**Critical temperature**<br>**Vapour pressure**<br>**Molecular Weight** | <br>$135^0$C<br>347,97 kPa @ 25 °C<br>58,12 g/mol (C4H10) |

## Section 10. Stability and Reactivity

| | |
|---|---|
| **Stability of Substance** | This product is stable under normal conditions. |
| **Possibility of hazardous reactions** | May react violently with oxidants.<br>Can form explosive mixture with air. |
| **Conditions to Avoid** | Contains gas under pressure, may explode if heated.<br>Protect from sunlight and do not expose to temperatures exceeding 50 °C.<br>Keep away from heat, sparks, open flame or other sources of ignition. Do not smoke. Do not pierce or burn, even after use. Do not spray on a naked flame or any incandescent material. |
| **Incompatible Materials** | Air, oxidizing agents. |
| **Hazardous Decomposition Products** | Under normal conditions of storage and use, hazardous decomposition products should not be produced. In case of combustion, toxic compositions, may be formed: carbon monoxide (CO) and carbon dioxide ($CO_2$). |

## Section 11 Toxicological Information

**Acute Effects:**

| | |
|---|---|
| **Swallowed** | Not applicable. |
| **Dermal** | Not applicable. |
| **Inhalation** | Not applicable. LC50: 658 000 ppm<br>Exposition time: 4 h Animal species: Rat |
| **Eye** | Not applicable. |
| **Skin** | Not applicable. |

**Chronic Effects:**

| | |
|---|---|
| **Carcinogenicity** | Not applicable. |
| **Reproductive Toxicity** | Not applicable. |
| **Germ Cell Mutagenicity** | Not applicable. |
| **Aspiration** | Not applicable. |
| **STOT/SE** | Not applicable. |
| **STOT/RE** | Not applicable. |

| | |
|---|---|
| **Other hazards** | High concentrations may cause drowsiness, headache and dizziness. If the amount of oxygen in the air drops below 17% may cause unconsciousness, asphyxia and / or CNS depression. Inhalation at high concentrations of decomposition products may cause respiratory failure (pulmonary edema). Contact with compressed gas may cause frostbite and serious ocular injury. |

## Section 12. Ecotoxicological Information

This product is not hazardous to the environment.

| | |
|---|---|
| **Persistence and degradability** | The substance will be readily biodegradable and it is not expected to persist in the environment. |
| **Bioaccumulation** | The substance are not considered to be persistent in the environment due to its low log Kow (log Kow < 4). |
| **Mobility in Soil** | Because of its high volatility, the product is unlikely to cause ground or water. |
| **Other adverse effects** | Ozone Depletion Potential ODP (R-11=1) = 0<br>Global Warming Potential GWP (CO2=1) = 3 |

**Individual component information (Please refer to www.epa.govt.co.nz for full details):**

**Propylene (115-07-1)**

| Route | Species | Duration | Value LC50/EC50 |
|---|---|---|---|
| Fish 1 | Various | 96 hr | 27.96 mg/L |
| Acute aquatic, Crustacean | Daphnia magna 1 | 48 hr | 14.22 mg/L |

## 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 5433:2020**


**Road and Rail Transport**

| | |
|---|---|
| UN No: | 2037 |
| Class-primary | 2 |
| Proper Shipping Name: | RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) |

**Air Transport**

| | |
|---|---|
| UN No: | 2037 |
| Class-primary | 2 |
| Proper Shipping Name: | RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) |

**Marine Transport**

| | |
|---|---|
| UN No: | 2037 |
| Class-primary | 2 |
| Proper Shipping Name: | RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES) |
| 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**

| HSW (HS) Regulations 2017 and EPA Notices | Trigger Quantity |
|---|---|
| Certified Handler | Not required |
| Location Certificate | 100kg |
| Tracking Trigger Quantities | Not required |
| Signage Trigger Quantities | 250kgm |
| 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 FEB 2025 15th edition.
3. Assigning a hazardous substance to a HSNO Approval (Aug 2013).

4. Transport of Dangerous goods on land NZS 5433:2020
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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