

SAFETY DATA SHEET

RURAL METHYL BROMIDE 980 FUMIGANT

Date Prepared: 16th November 2018

Replaces: 1st May 2016

1. IDENTIFICATION

Product Identifier: Rural Methyl Bromide 1000 Fumigant
Other Means of Identification: MeBr
Uses: Insecticidal fumigant for food supplies, warehouses, barges, buildings and furniture.
Supplier Name: TriCal Australia
Address: 5 Chamberlain St, Wingfield, SA, 5013
Telephone: (08) 8347 3838 or 1300 FUMIG8
Email: info@trical.com.au

2. HAZARDS IDENTIFICATION

Acute Toxicity – Inhalation, Category 1

Acute Toxicity – Oral, Category 1

Skin Corrosion/Irritation, Category 2

Serious Eye Damage/Irritation, Category 2A

Aquatic Toxicity Acute, Category 1



Danger



Warning



Warning



Danger

GHS Hazard Phrases:

H280 Contains gas under pressure; may explode if heated

H330 + H300: Fatal if Inhaled or swallowed

H315: Causes skin irritation

H319: Causes serious eye irritation

H400: Very toxic to aquatic life

H420: Harms public health and the environment by destroying ozone in the upper atmosphere

GHS Precaution Phrases:

P260: Do not breathe gas

P270: Do not eat, drink, or smoke when using this product

P271: Use only outdoors in well ventilated areas

P284: Wear respiratory protection

P264: Wash hands, arms and face thoroughly after handling

P280: Wear protective gloves and eye protection

P273: Avoid release to the environment

GHS Response Phrases:

P304 + 340 + 310: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTRE or doctor/physician

P301 + P310: Immediately call a POISON CENTRE or doctor/physician

P301 + P330 + P331: IF SWALLOWED: Rinse mouth.

P302 + P352: IF ON SKIN: Wash with plenty of soap and water

P332 + P313: If skin irritation occurs: Get medical advice/attention

P362: Take off contaminated clothing and wash before use

P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P337 + P313: If eye irritation persists: Get medical advice/attention

GHS Storage and Disposal

Phrases:

P410: Protect from sunlight

P403 + P233: Store in a well-ventilated place. Keep cylinder tightly closed

P405: Store locked up

P501: Dispose of contents/cylinder by returning to supplier

Classified as **HAZARDOUS** according to the criteria of SafeWork Australia
 Classified as **DANGEROUS GOODS** for Land and Marine Transport (See Section 14)



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3. COMPOSITION/INGREDIENTS

Identity (Other Names)	CAS Number	Proportion
Methyl Bromide	74-83-9	98%
Chloropicrin	76-06-2	2%

4. FIRST AID MEASURES

A 24-hour medical surveillance period is mandatory in all cases of exposure to Methyl Bromide, even in the absence of any immediate signs of poisoning. If poisoning occurs, contact a doctor or Poisons information centre: Phone 13 11 26

Swallowed: Unlikely route of exposure as methyl bromide product is a gas at room temperature. If ingested, may cause oral burns, sore throat, vomiting, oesophageal and stomach burns, difficulty breathing, headache, dizziness, and cyanosis. If swallowed, wash mouth thoroughly then give plenty of water to drink. Get immediate medical attention. Do NOT induce vomiting unless instructed to do so by a physician. Do not give anything by mouth to unconscious or convulsive person.

In Eye: If in eyes, hold eyelids open and wash with running water for at least 15 minutes. Ensure irrigation under eyelids by lifting them. Do not try to remove contact lenses unless trained. Take care not to rinse contaminated water into the unaffected eye or onto the face. If irritation, pain, swelling, lacrimation or photophobia persists, seek medical attention immediately.

On Skin: If skin contact occurs, immediately remove contaminated clothing and thoroughly wash skin with soap and water for at least 15 minutes. Blistered areas should be managed as burns. If irritation persists, repeat flushing and seek medical advice.

Inhaled: Remove to fresh air from contaminated area. DO NOT allow victim to move about unnecessarily. Give artificial respiration if not breathing, DO NOT inhale patients expired air. Get medical attention immediately. Symptoms of pulmonary oedema can be delayed up to 48 hours after exposure.

Advice to Doctor: Treat symptomatically. No specific antidote. Readily absorbed through lungs and to a lesser extent through the skin. Onset of toxicity may be delayed a number of hours. Typical signs include headache, nausea, vomiting and visual changes. Other signs and symptoms include blurred and double vision, nystagmus, hypotension, cough, tachypnoea, cyanosis, lethargy, profound weakness, dizziness, slurring of speech, hyperreflexia, albuminuria, haematuria, oliguria, anuria, and impaired liver function. Delayed effects can include pulmonary oedema. In case of respiratory and cardiac arrest initiate cardiopulmonary resuscitation immediately. In severe cases administer supplemental oxygen and treat bronchospasm, pulmonary oedema, seizures and coma. High doses thiopental anaesthesia seems effective in the treatment of methyl bromide-induced generalised seizures that have proved to be unresponsive to regular treatment with anti-epileptic drugs. No antidote available.

5. FIRE FIGHTING MEASURES

Extinguishing Media: Use extinguishing media appropriate for surrounding fire. All media allowed including water spray or fog, dry chemical foam and carbon dioxide. Flooding quantities of water should be used (where possible) to cool cylinders.

Hazardous Combustion Products: Methyl bromide is non-flammable under most practical circumstances but can be ignited by a high energy source. Decomposes on heating or burning, producing toxic and corrosive fumes including hydrogen bromide, bromide and carbon oxybromide as well as carbon dioxide and



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carbon monoxide. Risk of fire and explosion on contact with aluminium, zinc or magnesium. Cylinders may rupture violently if exposed to excessive heat.

Precautions for Fire Fighters:

Shut off supply if possible. If there is no risk to surroundings, let fire burn itself out. Do not attempt to extinguish unless flow of material can be stopped. Move cylinders away from fire if possible. Keep cylinders cool by spraying with water until well after fire is out. When fighting fires involving methyl bromide, wear safety boots, non-flammable overalls, gloves, hat, goggles and self-contained breathing apparatus. All skin areas should be covered. Prevent spillage entering drains or watercourses.

Hazchem Code: 2XE

6. ACCIDENTAL RELEASE MEASURES

Emergency Procedures:

Evacuate area. Shut off all ignition sources. Use self-contained breathing apparatus, chemical resistant clothing, nitrile gloves and chemical resistant boots. Approach release from upwind. Stop leak if possible. Use water spray to disperse vapours and protect personnel if possible. Do not allow unprotected entry until monitoring has shown vapour levels have dispersed to safe levels. Prevent material from entering sewers or confined spaces.

Containment of Spill:

Major spill: Evacuate the spill area and deny entry to unnecessary and unprotected personnel. Keep all personnel upwind. Extinguish sources of ignition if possible. Immediately call the fire service.

Small Spills: If possible, stop flow of vapour and shut off all ignition sources. Gas will vaporise and disperse in the atmosphere. Contain spilled liquid with earth, sand or absorbent material that does not react with spilled material. After clean-up of spills, wash area ensuring runoff does not enter drains. If a significant quantity of material enters drains, advise emergency services.

7. HANDLING AND STORAGE

Precautions for Safe Handling:

Do NOT drop, bump or drag cylinders.
Do NOT unload by rope-sling, hooks or tongs.
Keep cylinders upright. The cylinders should be moved carefully and when not in use they should be safeguarded by adequate holding devices. They should be inspected periodically for leaks using an appropriate halide detector. Do not eat, drink or smoke while handling the product.
Do not load in a vehicle or pack in a freight container with Classes 1 (Explosives), 3 (Flammable Liquids), 4.2 (Spontaneously Combustible Substances), 5.1 (Oxidising Agents), 5.2 (organic Peroxides), or Foodstuffs.

Conditions for Safe Storage:

Store in a locked, secure, cool, dry, well ventilated location away from food and feed stuffs. Outside or detached storage is preferred for cylinders. Isolate from active metals. Keep upright and secured to prevent falling over and potential damage to cylinders.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:

Methyl bromide	
TWA: 5ppm	HSIS, SafeWork Australia
TWA: 19 mg/m ³ (skin)	HSIS
Chloropicrin	
TWA: 0.1ppm	HSIS; SafeWork Australia
TWA: 0.67 mg/m ³	HSIS



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Engineering Controls:	Prevent escape into the atmosphere. Capture at source where possible. Local exhaust ventilation can be effective. Use only in well ventilated areas where human exposure is possible.
Personal Protective Equipment:	Very dangerous. Poisonous if inhaled. Will irritate eyes, skin, nose and throat. The liquids can cause burns. Use a halide detector or detection tubes to determine the presence of gas in any work situation. If gas is detected, wear appropriate protective equipment as described below and comply with label instructions. Respiratory: When releasing gas or opening structures for aeration, wear a full face respirator with a methyl bromide 'O' canister. For potentially higher exposures, it is advisable to wear a self-contained breathing apparatus. All equipment should be selected and used in accordance to AS/NZ 1715 and should comply with AS/NZS 1716. Skin/Hands: Gas can be trapped inside gloves. When handling product, do not wear gloves, rings or adhesive bandages. Body: No special clothing available. Avoid skin contact. Avoid wearing clothing that can trap vapours/fumes next to skin. If clothing becomes contaminated with product, remove immediately and wash before reusing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Colourless, shipped as a liquefied compressed gas. Product is colourless to straw-coloured liquid when under pressure or below boiling point (approx. 3.5°C).	
Odour:	Irritating tear gas odour	
Vapour Pressure:	1620 mm Hg @ 25°C (methyl bromide)	24 mm Hg @ 25°C (chloropicrin)
Vapour Density (Air=1):	3.3 (methyl bromide)	5.7 (chloropicrin)
Boiling Point:	Approx. 3.5°C @ 100 kPa	
Melting Point:	Approx. -60°C	
Solubility (in water):	Methyl bromide: 1.75g/100g water	Chloropicrin: 0.2g/100g water
Specific Gravity:	Approx. 1.67	
Flash Point:	N/A (gas): Flammable Gas, but only in presence of a high energy ignition source	
Octanol/Water Partition Coefficient:	log Kow = 1.19 (methyl bromide) log Kow = 2.09 (chloropicrin)	

10. STABILITY AND REACTIVITY

Chemical Stability:	Stable under normal conditions of storage.
Conditions to Avoid:	Intense heat can cause cylinders to rupture.
Incompatible Materials:	Strong bases, aluminium, zinc, magnesium, zinc, alkali metals.
Hazardous Decomposition Products:	Decomposes on heating and on burning producing toxic and corrosive fumes including hydrogen bromide, hydrogen chloride, phosgene, carbon dioxide and carbon monoxide.
Hazardous Polymerisation:	Not known to occur.

11. TOXICOLOGICAL INFORMATION

ACUTE

Initial acute effects may include headache, dizziness, nausea or vomiting, chest and abdominal pain, and irritated eyes, nose, and throat. With sufficient exposure, symptoms of slurred speech, blurred vision, temporary blindness, mental confusion, and sweating may occur.



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- Swallowed:** Very dangerous if swallowed. Can cause burns in the mouth and digestive system. LD₅₀ Oral (Rat) methyl bromide: 214mg/kg; chloropicrin: 250mg/kg.
- In Eyes:** Attacks eyes. Fumes can cause smarting then burning of the eyes. This should be taken as a warning sign. Effects can last long after exposure has ceased. Corneal damage or blindness may result if exposure prolonged or as a result of exposure to high concentrations.
- On Skin:** Attacks skin, liquid can cause burns. Toxic by skin absorption. Even minor skin absorption can lead to significant health problems and may result in death. Skin exposure will cause discomfort including moderate to severe itching, blistering and skin reddening.
- Inhaled:** Can kill if inhaled. Irritating if inhaled, especially to throat and lungs. Coughing should disappear once removed from contaminated air. Exposure may result in cardiac arrest. Methyl bromide can induce nervous system effects from which recovery may be slow. Methyl bromide vapour levels as low as 1164 to 1552 mg/cu m have been fatal to humans and harmful effects can be observed at 388 mg/cu m or more. Inhalation LC₅₀ (Rabbit) 150ppm (15 min), chloropicrin. For chloropicrin, 4 hour inhalation LC₅₀ (rats) is 11.9ppm. For methyl bromide, inhalation LC₅₀ (rats) is 302ppm (8hrs).

CHRONIC

Repeated minor exposure may have a cumulative poisoning effect. Chronic exposure may induce central nervous system depression and kidney injury. A 2 week exposure of approximately 136 mg/m³ (8hr/day) has produced systematic poisoning. Symptoms generally increase in severity with increasing levels of exposure and may vary somewhat according to exposure circumstances and individual susceptibility. In sub-lethal poisoning cases a latency period of 2 to 48 hours (usually about 4-6 hour) occurs between exposure and onset of symptoms.

- Mutagenic Effects:** Methyl bromide is classed as a Mutagen Class 3 (substances that cause concern for man owing to possible mutagenic effects). Methyl bromide is considered to be weakly mutagenic as some effects were seen in mouse cell cultures, mutagenicity assays with bacteria, and in human white blood cells. However rat liver cells did not display increased rates of mutation after exposure to methyl bromide.

12. ECOLOGICAL INFORMATION

- Ecotoxicity:** Methyl bromide is broad spectrum fumigant toxic to fungi and other microorganisms. It is slightly toxic to fish (LC₅₀ Bluegill sunfish 11mg/L; Tidewater silversides 12mg/L). Decomposition product of methyl bromide is practically non-toxic to Daphnia and algae but slightly toxic to amphibians.
- Persistence / Degradability:** Persistent in the air. Methyl bromide half-life in air is one year.
- Mobility:** Fumigant heavier than air. Expected to be highly mobile in soils (Koc for methyl bromide 9-22). Will volatilise from water and soil.
- Environmental Fate:** High Henry's Law Constant (7.34×10^{-3} for methyl bromide) indicates the product will readily volatilise from water and most soils.
- Bioaccumulation Potential:** Low (BCF for methyl bromide = 2)



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Other Adverse Effects: Listed as an Ozone Depleting Substance.

13. DISPOSAL CONSIDERATIONS

Disposal Methods: Dispose of chemical by use where possible. Product can be neutralised by pouring or sifting over soda ash then mixing and washing slowly into large tank. Empty cylinders should have all valves closed and be returned to the point of sale. Do not use empty containers to store any other material.

14. TRANSPORT INFORMATION

UN Number: 1581
Proper Shipping Name: Methyl bromide
DG Class (Subsidiary Risk): 2.3 (subsidiary risk: N/A)
Packaging Group: Not applicable to compressed gas in cylinders
Special Precautions for Users: Harmful by skin contact.
Hazchem Code: 2XE

15. REGULATORY INFORMATION

Poison Scheduling: S7
Registration/Notification: APVMA Product Number 41303

16. OTHER INFORMATION

Abbreviations:

N/A:	Not Applicable	TLV:	Threshold Limit Value
ES:	Exposure Standard	ppm:	parts per million
TWA:	Time –Weighted Average	UEL:	Upper Explosive Limit
STEL:	Short Term Exposure Limit	LEL:	Lower Explosive Limit

Prepared using data supplied by information supplied by manufacturer and publicly available databases including US Occupational Safety & Health Administration (OHSA); American Conference of Industrial Hygienists (ACGIH); Extension Toxicology Network (Extoxnet); International Programme on Chemical Safety (IPCS Inchem); Toxnet; National Occupational Health and Safety Commission of Australia (NOHSC Australia) – SafeWork Australia; Australian Pesticides & Veterinary Medicines Authority (APVMA).

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Please read the label carefully before using this product.

CHANGE REGISTER

Revision Date	Revision Details
1 May 2016	2. HAZARD IDENTIFICATION – Hazard, Risk and Safety Phrases update in line with GHS 4. FIRST AID MEASURES – Update of first aid information 11. TOXOLOGICAL INFORMATION – Added information for acute toxicological effects.
16 November 2018	Company Details changed – from A-Gas Rural to TriCal Australia Pty Ltd