BOC
A Member of The Linde Group

SAFETY DATA SHEET

 # 1209

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier

Product name **GREATER THAN 0.28% METHYL BROMIDE BALANCE AIR**

Synonym(s) 1209 - SDS NUMBER • PRODUCT CODES: 285, 288 • SPECIAL GAS MIXTURE

1.2 Uses and uses advised against

Use(s) CALIBRATION • INDUSTRIAL APPLICATIONS

1.3 Details of the supplier of the product

Supplier name **BOC LIMITED (AUSTRALIA)**

Address 10 Julius Avenue, North Ryde, NSW, 2113, AUSTRALIA

Telephone 131 262, (02) 8874 4400

Fax 132 427 (24 hours)

Website http://www.boc.com.au

1.4 Emergency telephone number(s)

Emergency 1800 653 572 (24/7) (Australia only)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO AUSTRALIAN WHS REGULATIONS

GHS classification(s)
Gases Under Pressure: Compressed gas
Acute Toxicity: Oral: Category 4
Acute Toxicity: Inhalation: Category 4
Germ Cell Mutagenicity: Category 2
Aquatic Toxicity (Acute): Category 1
Hazardous to the Ozone Layer: Category 1

2.2 Label elements

Signal word **WARNING**

Pictogram(s)

Hazard statement(s)

H280	Contains gas under pressure; may explode if heated.
H302	Harmful if swallowed.
H332	Harmful if inhaled.
H341	Suspected of causing genetic defects.
H400	Very toxic to aquatic life.
H420	Harms public health and the environment by destroying ozone in the upper atmosphere.

Prevention statement(s)

P202	Do not handle until all safety precautions have been read and understood.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P281	Use personal protective equipment as required.

Response statement(s)

P304 + P340	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.
P330	Rinse mouth.
P391	Collect spillage.

Storage statement(s)

P405	Store locked up.
P410 + P403	Protect from sunlight. Store in a well-ventilated place.

Disposal statement(s)

P501	Dispose of contents/container in accordance with relevant regulations.
P502	Refer to manufacturer/supplier for information on recovery/recycling.

2.3 Other hazards

No information provided.

3. COMPOSITION/ INFORMATION ON INGREDIENTS

3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content (v/v)
METHYL BROMIDE	74-83-9	200-813-2	0.28 to 5%
AIR	-	-	Remainder

4. FIRST AID MEASURES

4.1 Description of first aid measures

Eye If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

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 breathing is difficult. Seek immediate medical attention. For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor.

Skin If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

Ingestion Due to product form and application, ingestion is considered unlikely.

First aid facilities No information provided.

4.2 Most important symptoms and effects, both acute and delayed

Methyl bromide is absorbed through skin and causes damage to the central nervous system and lungs. Symptoms may be delayed up to 48 hours. Nervous system injury is characterised by lethargy, muscular pains, visual, speech and sensory disturbances and mental confusion. Vapours may be irritating to the eyes, skin and respiratory system.

4.3 Immediate medical attention and special treatment needed

Treat symptomatically.

5. FIRE FIGHTING MEASURES

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. May evolve toxic gases (bromides, bromine) when heated to decomposition.

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. Remove cool cylinders from the path of the fire. Evacuate the area if unable to keep cylinders cool. 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

2RE

2 Fine Water Spray.

R Wear liquid-tight chemical protective clothing and breathing apparatus. Dilute spill and run-off.

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

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.

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.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Exposure standards

Ingredient	Reference	TWA		STEL	
		ppm	mg/m³	ppm	mg/m³
Methyl bromide	SWA (AUS)	5	19	--	--

Biological limits

No biological limit values have been entered for this product.

8.2 Exposure controls

Engineering controls Provide suitable ventilation to minimise or eliminate exposure. Confined areas (e.g. tanks) should be adequately ventilated or gas tested. Maintain vapour levels below the recommended exposure standard.

PPE

Eye / Face	Wear safety glasses.
Hands	Wear leather gloves.
Body	Wear coveralls and safety boots.
Respiratory	Wear Self Contained Breathing Apparatus (SCBA) or an Air-line respirator.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	COLOURLESS GAS
Odour	ODOURLESS
Flammability	NON FLAMMABLE
Flash point	NOT RELEVANT
Boiling point	NOT AVAILABLE
Melting point	NOT AVAILABLE
Evaporation rate	NOT APPLICABLE
pH	NOT APPLICABLE
Vapour density	3.4 (Air = 1) (Methyl bromide)
Specific gravity	NOT APPLICABLE
Solubility (water)	0.0175 kg/kg (Methyl bromide)
Vapour pressure	NOT AVAILABLE
Upper explosion limit	NOT RELEVANT
Lower explosion limit	10 % (Methyl bromide)
Partition coefficient	NOT AVAILABLE
Autoignition temperature	NOT AVAILABLE
Decomposition temperature	NOT AVAILABLE
Viscosity	NOT AVAILABLE
Explosive properties	NOT AVAILABLE
Oxidising properties	NOT AVAILABLE
Odour threshold	NOT AVAILABLE

9.2 Other information

% Volatiles	100 %
Critical pressure	5220 kPa (Methyl bromide)
Critical temperature	194°C (Methyl bromide)
Cylinder pressure (when full)	13000 kPa @ 15°C

10. STABILITY AND REACTIVITY

10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

10.2 Chemical stability

No information provided.

10.3 Possibility of hazardous reactions

Polymerization will not occur.

10.4 Conditions to avoid

No information provided.

10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites), aluminum/aluminium alloys (forming spontaneously combustible aluminium trimethyl), heat and ignition sources. Slightly corrosive when moist. Also incompatible with zinc, magnesium and their alloys.

10.6 Hazardous decomposition products

May evolve toxic gases (bromides, bromine) when heated to decomposition.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

Information available for the product:

Harmful if swallowed and if inhaled. Methyl bromide is absorbed through skin and causes damage to the central nervous system and lungs. Symptoms may be delayed up to 48 hours. Nervous system injury is characterised by lethargy, muscular pains, visual, speech and sensory disturbances and mental confusion.

METHYL BROMIDE
LC50 (Inhalation): 850 ppm / 1h (rat)
LD50 (Oral): 214 mg/kg (rat)

Information available for the ingredient(s):

Ingredient	Oral Toxicity (LD50)	Dermal Toxicity (LD50)	Inhalation Toxicity (LC50)
METHYL BROMIDE	214 mg/kg (rat)	135 mg/kg	302 ppm/8h (rat)

Skin Not classified as a skin irritant. However, contact may result in mild irritation, redness, rash and dermatitis.

Eye Not classified as an eye irritant. However, direct contact may result in mild irritation, lacrimation, pain and redness.

Sensitization Not classified as causing skin or respiratory sensitisation.

Mutagenicity May cause heritable genetic damage.

Carcinogenicity Methyl bromide is not classifiable as to its carcinogenicity to humans (IARC Group 3).

Reproductive Not classified as a reproductive toxin. However, some animal studies have shown fetal defects in doses causing maternal toxicity.

STOT – single exposure Not classified as causing organ damage from single exposure.

STOT – repeated exposure Chronic exposure may result in liver, kidney and brain damage.

Aspiration Not classified as causing aspiration.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Very toxic to aquatic organisms.

12.2 Persistence and degradability

No information provided.

12.3 Bioaccumulative potential

No information provided.

12.4 Mobility in soil

No information provided.

12.5 Other adverse effects

No information provided.

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 BY THE CRITERIA OF THE ADG CODE

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
14.1 UN Number	1955	1955	1955
14.2 Proper Shipping Name	COMPRESSED GAS, TOXIC, N.O.S. (Contains methyl bromide)	COMPRESSED GAS, TOXIC, N.O.S. (Contains methyl bromide)	COMPRESSED GAS, TOXIC, N.O.S. (Contains methyl bromide)
14.3 Transport hazard class	2.3	2.3	2.3
14.4 Packing Group	None Allocated	None Allocated	None Allocated

14.5 Environmental hazards No information provided

14.6 Special precautions for user

Hazchem code 2RE

GTEPG 2B1

EMS F-C, S-U

Other information Ensure cylinder is separated from driver and foodstuffs.

15. REGULATORY INFORMATION

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

Poison schedule Classified as a Schedule 7 (S7) Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

Classifications Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

Hazard codes

Muta.	Mutagen
N	Dangerous for the environment
Xn	Harmful

Risk phrases

R20/22	Harmful by inhalation and if swallowed.
R50	Very toxic to aquatic organisms.
R59	Dangerous for the ozone layer.
R68	Possible risks of irreversible effects.

Safety phrases

S3/7/9	Keep container tightly closed in a cool, well ventilated place.
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
S36/37/39	Wear suitable protective clothing, gloves and eye/face protection.
S44	If you feel unwell, contact a doctor or Poisons Information Centre immediately (show label where possible).

Inventory listing(s) **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**
All components are listed on AICS, or are exempt.

16. OTHER INFORMATION

Additional information The storage of significant quantities of gas cylinders must comply with AS4332 The storage and handling of gases in cylinders.

Application Method: Gas regulator of suitable pressure and flow rating fitted to cylinder valve or manifold with low pressure gas distribution to equipment.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this 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.

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 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
CNS	Central Nervous System
EC No.	EC No - European Community Number
EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
GHS	Globally Harmonized System
GTEPG	Group Text Emergency Procedure Guide
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m³	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high 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)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

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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