BOC
A Member of The Linde Group

SAFETY DATA SHEET

0298

Product Name **MAPP GAS (NZ)**

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

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
Emergency	0800 111 333 (NZ only)
Email	customer-service-nz@boc.com
Web Site	http://www.boc.co.nz/
Synonym(s)	0298 - SDS NUMBER • LIQUEFIED PETROLEUM GAS AND METHYL ACETYLENE-PROPADIENE MIX • TURBOGAS
Use(s)	BRAZING APPLICATIONS • SOLDERING APPLICATIONS • TURBOTORCH GAS
SDS Date	20 Oct 2010

2. HAZARDS IDENTIFICATION

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

HSNO CLASSIFICATION

2.1.1A Flammable gases: high hazard.

HAZARD STATEMENT

H220 Extremely flammable gas.

PREVENTION STATEMENT

P103 Read label before use (applies only where the substance is available to the general public).

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

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 STATEMENT

P403 Store in a well-ventilated place.

CLASSIFIED AS A DANGEROUS GOOD ACCORDING TO LAND TRANSPORT RULE: DANGEROUS GOODS 2005; NZS 5433:2007, UN, IMDG OR IATA

UN No.	1060	**DG Class**	2.1	**Subsidiary Risk(s)**	None Allocated
Packing Group	None Allocated	**Hazchem Code**	2YE		

3. COMPOSITION/ INFORMATION ON INGREDIENTS

Ingredient	CAS No.	Content
PROPYLENE	115-07-1	43%
PROPANE	74-98-6	7%
BUTANE	106-97-8	6%
METHYL ACETYLENE	74-99-7	30%

3. COMPOSITION/ INFORMATION ON INGREDIENTS

Ingredient	CAS No.	Content
PROPADIENE	463-49-0	14%

4. FIRST AID MEASURES

Eye Cold burns: Immediately flush with tepid water or with sterile saline solution. Hold eyelids apart and irrigate for 15 minutes. Seek medical attention.

Inhalation If inhaled, remove from contaminated area. To protect rescuer, use an Air-line respirator or Self Contained Breathing Apparatus (SCBA). Be aware of possible explosive atmospheres. Apply artificial respiration if not breathing. Give oxygen if available.

Skin 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.

Ingestion Not considered a potential route of exposure.

Advice to Doctor Treat symptomatically.

5. FIRE FIGHTING MEASURES

Flammability Highly flammable. Heating to decomposition produces acrid smoke and irritating fumes. Product will add fuel to a fire. Eliminate all ignition sources including cigarettes, open flames, spark producing switches/tools, heaters, naked lights, pilot lights, mobile phones etc. when handling.

Fire and Explosion Temperatures in a fire may cause cylinders to rupture and internal pressure relief devices to be activated. Cool cylinders or containers exposed to fire by applying water from a protected location. Do not approach cylinders or containers suspected of being hot. This material is capable of forming explosive mixtures in air.

Extinguishing Stop flow of gas if safe to do so, such as by slowly closing the cylinder valve. If the gas source cannot be isolated, do not extinguish the flame, since re-ignition and explosion could occur. Await arrival of emergency services or manufacturer's advisor. Drench and cool cylinders with water spray from protected area at a safe distance. If it is absolutely necessary to extinguish the flame, use only a dry chemical powder extinguisher. Do not move cylinders for at least 24 hours. Avoid shock and bumps to cylinders.

Hazchem Code 2YE

6. ACCIDENTAL RELEASE MEASURES

Spillage If the cylinder is leaking, eliminate all potential ignition sources and evacuate area of personnel. Prevent spreading of vapours through drains and ventilation systems. Inform manufacturer/supplier of leak. Use personal protective equipment. Carefully move material to a well ventilated remote area, then allow to discharge. Do not attempt to repair leaking valve or cylinder safety devices.

7. STORAGE AND HANDLING

Storage Do not store near sources of ignition or 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. Also store removed from copper alloys (>60% copper), silver, mercury, halogens, metallic sodium and potassium.

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.

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

Exposure Stds

Ingredient	Reference	TWA		STEL	
Butane	WES (NZ)	800 ppm	1900 mg/m3	--	--
Methyl acetylene	WES (NZ)	1000 ppm	1640 mg/m3	--	--
Propane	WES (NZ)	Asphyxiant			

Ingredient	Reference	TWA	STEL
Propylene	WES (NZ)	Asphyxiant	

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

PPE Wear safety boots, leather gloves and safety glasses. Where an inhalation risk exists, wear: self Contained Breathing Apparatus (SCBA) or an Air-line respirator.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	COLOURLESS GAS	**Solubility (water)**	SLIGHTLY SOLUBLE
Odour	UNPLEASANT CHARACTERISTIC ODOUR	**Specific Gravity**	NOT APPLICABLE
pH	NOT APPLICABLE	**% Volatiles**	100 %
Vapour Pressure	670 kPa @ 21°C (Approximately)	**Flammability**	HIGHLY FLAMMABLE
Vapour Density	1.6 (Air = 1)	**Flash Point**	-98°C
Boiling Point	-48°C to -23°C	**Upper Explosion Limit**	11.0 %
Melting Point	NOT AVAILABLE	**Lower Explosion Limit**	3.0 %
Evaporation Rate	NOT APPLICABLE		
Autoignition Temperature	454°C	**Cylinder Pressure**	670 kPa @ 21°C (Approximately)

10. STABILITY AND REACTIVITY

Chemical Stability Stable under recommended conditions of storage.

Conditions to Avoid Avoid heat, sparks, open flames and other ignition sources.

Material to Avoid Incompatible with oxidising agents (eg. hypochlorites), acids (eg. nitric acid), heat and ignition sources. Do not use natural rubber flexible hoses. Also incompatible (potentially violently) with oxygen, halogens and metal halides. Also incompatible with copper alloys (>60% copper), silver, mercury, halogens, metallic sodium and potassium. To avoid chemical decomposition, do not set regulator above 100 kPa. Check for leaks prior to use especially at cylinder to Turbotorch connection. Never allow oil or gas on cylinder valve or Turbotorch.

Hazardous Decomposition Products Heating to decomposition produces acrid smoke and irritating fumes.

Polymerization Polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

Health Hazard Summary Asphyxiant gas. Symptoms of exposure are directly related to displacement of oxygen. As the amount of oxygen inhaled is reduced from 21-14% volume, the pulse rate may accelerate and the rate and volume of breathing may increase. The ability to maintain attention and think clearly is diminished, muscular co-ordination is somewhat disturbed. As oxygen decreases from 14-10% volume, judgement becomes faulty, severe injuries may result in no pain. Muscular effort may lead to rapid fatigue. Further reduction to 6% may result in nausea and vomiting. Ability to move may be lost. Permanent brain damage may result even after resuscitation from exposure to this low level of oxygen. Below 6% breathing is in gasps and convulsions may occur. Inhalation of a mixture containing no oxygen may result in unconsciousness from the first breath and death may follow in minutes.

Eye Non irritant. However, direct contact may result in cold burns with possible permanent damage.

Inhalation Non irritant - Asphyxiant. Effects are proportional to oxygen displacement.

Skin Non irritant. However, direct contact with the liquefied material or escaping compressed gas may cause frostbite injury.

Ingestion Ingestion is considered unlikely due to product form.

Toxicity Data No LD50 data available for this product.

12. ECOLOGICAL INFORMATION

Environment No known ecological damage is caused by this product.

13. DISPOSAL CONSIDERATIONS

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

Transport Ensure cylinder is separated from driver and that outlet of relief device is not obstructed.

CLASSIFIED AS A DANGEROUS GOOD ACCORDING TO LAND TRANSPORT RULE: DANGEROUS GOODS 2005; NZS 5433:2007, UN, IMDG OR IATA

Shipping Name	METHYLACETYLENE AND PROPADIENE MIXTURE, STABILIZED				
UN No.	1060	**DG Class**	2.1	**Subsidiary Risk(s)**	None Allocated
Packing Group	None Allocated	**Hazchem Code**	2YE		

IATA

Shipping Name	METHYLACETYLENE AND PROPADIENE MIXTURE, STABILIZED				
UN No.	1060	**DG Class**	2.1	**Subsidiary Risk(s)**	None Allocated
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IMDG

Shipping Name	METHYLACETYLENE AND PROPADIENE MIXTURE, STABILIZED				
UN No.	1060	**DG Class**	2.1	**Subsidiary Risk(s)**	None Allocated
Packing Group	None Allocated				

15. REGULATORY INFORMATION

Approval Code HSR002532

Group Name Compressed Gases (Flammable) Group Standard 2006

HSNO Controls **AH1** - Approved Handler requirements (including test certificate and qualification requirements). Refer to the New Zealand Hazardous Substances and New Organisms (Personnel Qualifications) Regulations 2001, Regulations 4 - 6 for more information.

Refer to the ERMA website for more information: www.ermanz.govt.nz

16. OTHER INFORMATION

Additional Information This product is to be used with Turbotorch only and should not be used with any other equipment. Gas withdrawal cylinder should not be used in the inverted position as this will result in excessive flows due to liquid entering the Turbotorch, which can cause "flare-ups".

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

ABBREVIATIONS:
ACGIH - American Conference of Industrial Hygienists.
ADG - Australian Dangerous Goods.
BEI - Biological Exposure Indice(s).
CAS# - Chemical Abstract Service number - used to uniquely identify chemical compounds.
CNS - Central Nervous System.
EC No - European Community Number.
HSNO - Hazardous Substances and New Organisms.
IARC - International Agency for Research on Cancer.

mg/m3 - Milligrams per Cubic Metre.
NOS - Not Otherwise Specified.
pH - relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm - Parts Per Million.
RTECS - Registry of Toxic Effects of Chemical Substances.
STEL - Short Term Exposure Limit.
SWA - Safe Work Australia.
TWA - Time Weighted Average.

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 Chem Alert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

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

Report Status

This document has been compiled by RMT on behalf of the manufacturer of the product and serves as the manufacturer's Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer 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 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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SDS Date 20 Oct 2010

End of Report