

MAPP GAS®**Material Safety Data Sheet**

This product is flammable and an asphyxiant. The mixture is not classified as hazardous according to criteria of Worksafe Australia.

COMPANY DETAILS

Company: Rothenberger Australia Pty Ltd
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IDENTIFICATION

Product Name: Liquefied Petroleum Gas and Methyl Acetylene-Propadiene Mixture
Other name: Mapp Gas®
UN Number: 1060
Dangerous Goods: 2.1
HAZCHEM Code: Not applicable (bulk only)
Poisons Schedule: None allocated
Pack Size: Cylinder Only. Contents 0.45kg
Use: Soldering and brazing applications
Application method: To be used with Super Fire Torch® only. Do not use with any other equipment.

Physical Description/Properties

Appearance: Colourless gas, with a characteristic unpleasant odor.
Boiling Point (°C at 101.32kPa): -48 to -23
Vapour pressure (kPa at 21°C): approx. 670
Relative density (0°C, 101.3kpa, Air=1): approx. 1.6
Flashpoint (°C): -98
Lower flammability limit (%): 3.0
Upper flammability limit (%): 11.0
Solubility in water (101.32kpa, 20°C): Slight

Other Properties

Cylinder pressure when full at 21°C: Approx. 670
Liquefiable gas, critical temperature: Not determined
Critical pressure: Not determined
Autoignition temperature (°C): 454
Material compatibility: Incompatible with natural rubber, copper alloys above 60% copper, silver, mercury, halogens, acids metallic sodium, potassium, potassium permanganate.
Cylinder Colour: Yellow
Cylinder valve outlet: CGA 600 (1.000-20 UNEF-RH-EXT)
Cylinder safety device: Relief valve
Approx. weight when full: Tare weight of cylinder and contents: approx. 0.8kg

Ingredients Chemical Name:	CAS Number:	Proportion (vol %)
Propane	74-98-6	7
Propylene	115-07-1	43
Total C ₄ (Butane)	106-97-8	6
Propadiene	463-49-0	14
Methyl Acetylene	74-99-7	30

HEALTH HAZARD INFORMATION

Health Effects: A flammable simple asphyxiant gas, irritant.

Butane LC50 rat 658mg/L4 hour. Worksafe Australia TLV-TWA Exposed Standard of 1000ppm (1640 mg/m³). For Methyl Acetylene and 800ppm (1900 mg/m³) for Butane are recommended.

Acute: Uncontrolled release of compressed gas may cause physical injuries in addition to the following health effects:

Swallowed: Unlikely method of exposure due to evaporation of liquid.

Eye: Contact with evaporating liquid may cause frostbite, irritation or permanent damage including blindness.

Skin: Contact with evaporating liquid may cause frostbite or irritation.

Inhaled: This gas mixture is a central nervous system depressant and irritant.

Inhalation of low concentrations may cause excitement and disorientation. It may replace oxygen in the inhaled air and cause asphyxiation. As the amount of oxygen inhaled is reduced from 21 to 14 volume % the pulse rate will accelerate and the rate and volume of breathing will increase. The ability to maintain attention and think clearly is diminished, muscular coordination is somewhat disturbed. As oxygen decreases from 14 to 10% judgement becomes faulty, severe injuries may cause no pain. Muscular effort leads to rapid fatigue. Further reduction may cause nausea and vomiting. Ability to move may be lost. Permanent brain damage may result even after resuscitation from exposure to low level of oxygen. Below 6% breathing is in gasps and convulsions may occur. **Inhalation of a mixture containing no oxygen will result in unconsciousness from the first breath and death will follow in a few minutes** (adapted from Henderson and Haggard).

Chronic: No known effects. Not carcinogenic or mutagenic and has no specific reproductive effects.

First Aid: Rescue personnel are advised to take precautions against possible oxygen deficiency and explosive atmospheres when entering confined spaces and poorly ventilated areas. Self-contained breathing apparatus is recommended.

Swallowed: Not applicable.

Eyes: Never introduce oil or ointment into the eyes without medical advice in case of freezing cryogenic burns by rapidly evaporating liquid. **Do not wash the eyes with hot or even tepid water.** Remove victim from the source of contamination. Open eyelids wide to allow liquid to evaporate. If pain is present, refer the victim to eye specialist for further treatment to follow up. If victim cannot tolerate light, protect eyes with a light bandage or handkerchief.

Skin: Treatment for thermal burns or frostbite: Immerse or flush affected area in tepid water for 10-15 mins. Bandage lightly with sterile dressing. Treat for shock. Seek medical attention.

Inhaled: Prompt medical attention is mandatory in all cases of overexposure. Rescue personnel should be equipped with self-contained breathing apparatus.

Conscious persons should be assisted to an uncontaminated area and inhale fresh air. Quick removal from the contaminated area is most important. Unconscious persons should be moved to an uncontaminated area, given mouth to mouth resuscitation and supplemental oxygen. Seek medical attention. Further treatment should be symptomatic and supportive.

First Aid Facilities: Air-Viva™ or Oxy-Viva™. Self contained breathing apparatus for rescue personnel.

Advice to Doctor: Treatment for cold burns and asphyxia.

PRECAUTIONS FOR USE

Exposure Standards: Asphyxiant in high concentrations. Worksafe exposure standard TLV TWA for butane is 800 vppm, for Methyl Acetylene in 1000ppm.

Engineering Controls: Mapp Gas® is only designed for use with Super Fire Torch®. Do NOT use 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 Super Fire Torch®, which can cause "flare-ups".

Flammable gas area classifications may apply and flameproof electrical equipment maybe required if large volumes are used or in enclosed poorly ventilated area. Ventilate work area well to maintain levels below TLV and also to remove any toxic products of combustion and brazing. Do not use with copper alloys where Cu content is >60% (eg. Standard brass). Steel, stainless steel, aluminum, wrought iron (no cast iron fittings), PVC, Buna N and butyl rubber are recommended. Polyethylene and neoprene are not suitable. Avoid static electricity. Earth cylinder and Super Fire Torch® when not in use. Cylinders should be kept in a well-ventilated area, preferably outside a building. Never store in toolboxes or unventilated enclosed vehicle compartments. Never heat cylinder.

To avoid chemical decomposition do not set regulator above 100 kPa. Check for leaks prior to use especially at cylinder to Super Fire Torch® connection. Never allow oil or gas on cylinder valve or Super Fire Torch®. Secure cylinder and Super

Fire Torch® against falling at all times especially when in use. Never use with standard LPG appliances or equipment. Mapp Gas® is supplied in Non Refillable DOT39 cylinders – substantial penalties apply in Australian States for refilling these cylinders.

Personal Protection: Avoid contact with escaping gas. Only experienced and properly trained people should use this product. Wear safety glasses, safety shoes, use leather protective gloves when moving and connecting cylinders. After use, disconnect Super Fire Torch® from cylinder – do NOT store connected. Before use, check cylinder/Super Fire Torch® for leaks using soapy water. Do not use if leaking.

Flammability: Cylinders and Super Fire Torch® equipment should be located in areas with good natural ventilation. Never keep in enclosed unventilated areas, such as Toolboxes or enclosed compartments of vehicles.

SAFE HANDLING INFORMATION

Storage and Transport: Refer to Commonwealth, State and Territory Dangerous Goods legislation which contain requirements for flammable gas storage and transport. Always disconnect Super Fire Torch® and check for leaks before transporting or storing cylinders.

Store: Do not store near sources of ignition including static electricity, oxidising agents, poisons, flammable or combustible materials. Cylinders should be stored: upright, prevented from falling, in a secure area, below 45°C, 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.

Transport: Ensure cylinder is separated from driver and that outlet of relief device is not obstructed. Do not transport in unventilated vehicle compartments or toolboxes. In Victoria, you legally must transport either in a gas tight compartment which is ventilated to outside and segregated from the driver or occupants, or on an open vehicle.

Shipping Name: Petroleum gas, liquefied.

Transport Emergency: Refer to E.P.G. card: 2A2 or Initial Emergency Response Guide 04.

Spills and disposal: Beware of extreme flammability of Mapp Gas®. If a leak has occurred but not ignited and if the leak cannot be stopped by either tightening the Super Fire Torch® connection or by removing the Super Fire Torch® completely, then take the following actions immediately: eliminated all sources of ignition, evacuate uninvolved personnel from the area, remove cylinder outside to a well ventilated area. Allow to blow down. Never attempt to repair a leaking or damaged cylinder valve. Ensure the work area is thoroughly ventilated before reuse. Before each use, leaking checking of cylinder and Super Fire Torch® may be done by using soapy water at any joint and outlets. Prior to disposal of cylinder, fully burn off all contents using Super Fire Torch®. Dispose of cylinder safely. Never incinerate a cylinder.

Fire/Explosion Hazard: Temperature in a fire may cause cylinders to rupture and pressure relief devices to be activated. Call fire brigade. If fire is impinging on flammable materials or other cylinders evacuate the area. If the cylinder is standing alone and the fire is not impinging on flammable materials or other cylinders, evacuate uninvolved personnel. If safe, move cylinders from path of fire. Otherwise from a protected location, spray water on the cylinders to keep them cool: until fire is extinguished. Ensure working area is well ventilated before re-use. If cylinder/Super Fire Torch® catches fire, do not put out fire, but allow contents to burn off. If safe and possible, move cylinder to a well-ventilated, preferably outdoor area. Do not approach cylinders suspected of being hot.