

Material Safety Data Sheet

SECTION 1: Identification of substance/preparation and company

Identification of substance:

MAP-PRO

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SECTION 2: Composition/information on ingredients

<u>SUBSTANCE</u>	<u>CONCENTRATION</u>	<u>CAS #</u>	<u>EEC#</u>	<u>HAZARD</u>
Propylene	99.5%	115-07-01	—	R12
Propane	0.5%	74-98-6	—	R12

R12 Extremely flammable.

Contains no other substances or impurities that are classified as hazardous for supply as defined in the Dangerous Substances Directive 67/548/EEC (with subsequent amendments and adaptations) and Dangerous Preparations Directive 88/379/EEC (with subsequent amendments and adaptations). In particular, the concentration of dienes, including 1,3 butadiene is less than 0.1%.

SECTION 3: Hazards identification

Liquefied gas under pressure.

Extremely flammable - explosive air/vapour mixtures may form at ambient temperature.

Skin contact with liquid will cause cold burns and frostbite.

SECTION 4: First aid measures

Inhalation: Simple Asphyxiant. May cause drowsiness, headache, blurred vision and irritation of eyes, nose or throat. Remove to fresh air and keep patient warm and calm. If symptoms persist obtain medical advice. Unconscious casualties must be placed in the recovery position. Monitor breathing and pulse rate and if breathing has failed respiration should be assisted, preferably by mouth-to-mouth method. Administer cardiac massage if necessary. SEEK MEDICAL ATTENTION IMMEDIATELY

Eye contact: Contact with liquid - Flush with water for at least 15 minutes. Apply a sterile, dry dressing. SEEK MEDICAL ATTENTION IMMEDIATELY

Skin contact: Liquefied MAPP gas can cause frostbite. Contact with liquid - Flush with water for at least 15 minutes. Apply a sterile, dry dressing. SEEK MEDICAL ATTENTION IMMEDIATELY

Material Safety Data Sheet

Ingestion: Not considered a potential route of exposure.

SECTION 5: Fire fighting measures

MAP-PRO supplied and stored above its flash point - avoid all naked flames. Pressurised containers may rupture/explode. If possible, stop flow of product. Move container away and cool with water from protected position. Do not extinguish a leaking gas flame unless absolutely necessary - spontaneous explosive re-ignition may occur.

Extinguish any other fire.

Extinguishing media: All known extinguishers can be used.

Dry powder recommended for small fires.

Exposure hazards from preparation, combustion products, resulting gases etc.: Incomplete combustion may form carbon dioxide.

Special protective equipment: In confined space use self-contained breathing apparatus.

SECTION 6 Accidental release measures

Extremely flammable gas severe fire +/- explosion risk.

Extinguish all sources of ignition. Evacuate area, ensure adequate ventilation. If possible, stop flow.

In case of major escape of gas wear self contained breathing apparatus when entering area unless atmosphere is proved to be safe. Prevent accumulation of propane in sewers, basements other enclosed areas - severe explosion risk.

Small quantities of spilled liquid may be allowed to evaporate - vapour should be dispersed by effective ventilation.

SECTION 7: Handling and storage

Handling: Open valve slowly to avoid pressure shock.

Avoid suck back of water into cylinder.

Avoid back feed into the container.

Only use with equipment which is suitable for this product, its supply, pressure and temperature - contact your supplier in all cases of doubt.

Before using this product in any new process, a thorough material compatibility and safety study should be carried out.

Always check cylinders when first collected, delivered or used, using an approved leak detection fluid.

Always re-check cylinder if dropped, or knocked during use or storage.

Storage: Keep container below 50°C in a well ventilated area. Ensure equipment is electrically bonded and earthed to prevent static accumulation. Segregate from acetylene, oxidant gases and other oxidants in store.

Cylinder sizes A, B, D and E should remain upright at all times and in the open air.

Material Safety Data Sheet

Refer to supplier's container handling instructions

SECTION 8: Exposure controls/personal protection

Do not smoke while handling product.

Wear suitable head, hand and body protection.

Ensure adequate ventilation.

Keep self-contained breathing apparatus readily available for emergency use.

OCCUPATIONAL EXPOSURE LIMITS

	<u>Long term exposure limit</u>	<u>Short term exposure limit</u>
LPG	1000ppm 1750mg/m ³	31250ppm 2180mg/m ³

SECTION 9: Physical and chemical properties

Appearance: Colourless gas.

Odour: Hydrocarbon

Vapour Density (air=1): 1.5@32°F

Boiling point: -54 °F

Melting point: -301°F

Critical temperature: Below ambient temperature

Auto ignition temperature: 927 °F

Flammability range: 3.0 - 11.0 vol% in air.

Relative density, gas: 1.48 (Air = 1)

Specific gravity: 0.57 (water = 1)

Vapour pressure 109.73 psig @70°F

Solubility in water: Slight

SECTION 10: Stability and reactivity

May form explosive mixtures with air.

May react violently with oxidants.

Hazardous polymerisation will not occur.

SECTION 11: Toxicological information

Eyes: Contact with liquid will result in serious damage.

Skin: Contact with liquid will cause cold burns and frostbite.

Inhalation: May cause drowsiness, headache, blurred vision and irritation of eyes, nose or throat.

High concentrations may have a narcotic effect.

Wilful inhalation of propane may produce unconsciousness and/or death.

Material Safety Data Sheet

SECTION 12: Ecological information

MAP-PRO is a greenhouse gas.

No data available.

SECTION 13: Disposal considerations

Do not dispose of any non-empty LPG container. Cylinders should be emptied and returned to a hazardous waste collection point.

Do not discharge into any area where there is a risk of forming an explosive mixture with air.

Waste gas should be flared through a suitable burner with flash back arrestor. Empty cylinder still contain flammable vapour.

Disposal of waste gas cartridges and aerosols must be disposed of in compliance with the current national and local legislation.

In England and Wales, this is primarily The Hazardous Waste Regulations 2005 (www.opsi.gov.uk/si/si2005/20050894.htm) and in Scotland, The Special Waste Regulations 2005 (www.hms.o.gov.uk/legislation/scotland/ssi2004/20040112.htm).

The implications of this legislation may require you to register your premises as a producer of hazardous waste and consign this waste in compliance with the above regulations. Further guidance is available at www.environment-agency.gov.uk All waste from commercial activities is controlled waste and therefore, unless used by private individuals for no commercial gain, these articles must be disposed of as such.

The List of Wastes (England) Regulations provides the European Waste Codes (EWC) for these as:
16 05 04* gases in pressure containers (including halons) containing dangerous substances

SECTION 14: Transport information

UN Nr.: UN 1077

Class/Division: 2.1

ADR/RID item Nr.: 2,2f

ADR/RID Hazard Nr.: 23

Tremcard Nr.: 27a

Group card Nr.: 20gl 1

Labelling ADR Label 3: flammable gas

Further transport advice:

Avoid transport on vehicles where the load space is not separated from the drivers compartment.

Material Safety Data Sheet

Ensure that the vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency.

Before transporting product containers ensure that they are firmly secured and:

- cylinder valve is closed and not leaking
- valve outlet cap nut or plug (where provided) is correctly fitted
- valve protection device (where provided) is correctly fitted
- adequate ventilation
- compliance with applicable regulations

SECTION 15: Regulatory information

Classification: Extremely flammable.
- Symbols F+
- Risk phrases R12 Extremely flammable
- Safety phrases S2 Keep out of reach of children
S3/9 Keep in a cool and well ventilated place.
S16 Keep away from sources of ignition - no smoking
S36/37/39 Wear suitable protective clothing, gloves eye/face protection.

SECTION 16: Other information

CONCAWE Product dossier "Liquefied Petroleum Gas", 92/102 contains additional toxicological and ecological data.

For further safety information please refer to "Safe Under Pressure" and "Safe handling, storage and transport of Industrial gas cylinders".

Cylinder is manufactured and is compliant with TUV and GS European standards.