

Material Safety Data Sheet

Airgas

Cleanweld Turner

MAPP GAS (Petroleum Gas, MAPD)

Section 1. Chemical product and company identification

Product name	: MAPP GAS (Petroleum Gas, MAPD)
Supplier	: AIRGAS INC., on behalf of its subsidiaries 259 North Radnor-Chester Road Suite 100 Radnor, PA 19087-5283 1-610-687-5253
Product use	: Synthetic/Analytical chemistry.
Synonym	: MAP, MAPP, Methacetylene-Propadiene, Mixture of Methylacetylene and Propadiene
MSDS #	: 002015
Date of Preparation/Revision	: 4/1/2013.
In case of emergency	: 1-866-734-3438

Section 2. Hazards identification

Physical state	: Gas.
Emergency overview	: DANGER! FLAMMABLE GAS. MAY CAUSE FLASH FIRE. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE. CONTENTS UNDER PRESSURE. Keep away from heat, sparks and flame. Do not puncture or incinerate container. Contains material that can cause target organ damage. Use only with adequate ventilation. Keep container closed. Contact with rapidly expanding gases can cause frostbite.
Target organs	: Contains material which causes damage to the following organs: upper respiratory tract, skin, eyes. Contains material which may cause damage to the following organs: the nervous system, central nervous system (CNS).
Routes of entry	: Inhalation
Potential acute health effects	
Eyes	: Liquid or cold gas may cause frostbites.
Skin	: Liquid or cold gas may cause frostbites.
Inhalation	: Acts as a simple asphyxiant.
Ingestion	: Ingestion is not a normal route of exposure for gases
Potential chronic health effects	
Carcinogenicity	: See ACGIH Carcinogen classification.
Target organs	: Contains material which causes damage to the following organs: upper respiratory tract, skin, eyes. Contains material which may cause damage to the following organs: the nervous system, central nervous system (CNS).
Medical conditions aggravated by over-exposure	: Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (Section 11)

Section 3. Composition, Information on Ingredients

<u>Name</u>	<u>CAS number</u>	<u>% Volume</u>	<u>Exposure limits</u>
Propylene	115-07-1	40 - 50	<p>ACGIH TLV (United States, 2/2010). TWA: 500 ppm 8 hour(s).</p> <p>ACGIH TLV (United States, 1/2005). TWA: 500 ppm 8 hour(s). Form: All forms</p>
Methyl Acetylene	74-99-7	27 - 33	<p>ACGIH TLV (United States, 2/2010). TWA: 1640 mg/m³ 8 hour(s).</p> <p>TWA: 1000 ppm 8 hour(s).</p> <p>NIOSH REL (United States, 6/2009). TWA: 1650 mg/m³ 10 hour(s).</p> <p>TWA: 1000 ppm 10 hour(s).</p> <p>OSHA PEL (United States, 11/2006). TWA: 1650 mg/m³ 8 hour(s).</p> <p>TWA: 1000 ppm 8 hour(s).</p> <p>OSHA PEL 1989 (United States, 3/1989). TWA: 1650 mg/m³ 8 hour(s).</p> <p>TWA: 1000 ppm 8 hour(s).</p>
1,2-Propadiene (Allene)	463-49-0	13 - 15	<p>TLV (Philippines, 1/1978). TLV: 1800 mg/m³ 8 hour(s).</p> <p>TLV: 1000 ppm 8 hour(s).</p> <p>Ministry of Labor (Republic of Korea, 6/2008). STEL: 1250 ppm 15 minute(s).</p> <p>STEL: 2250 mg/m³ 15 minute(s).</p> <p>TWA: 1000 ppm 8 hour(s).</p> <p>TWA: 1800 mg/m³ 8 hour(s).</p>
Isobutane	75-28-5	2 - 5	<p>ACGIH TLV (United States, 2/2010). TWA: 1000 ppm 8 hour(s).</p> <p>NIOSH REL (United States, 6/2009). TWA: 1900 mg/m³ 10 hour(s).</p> <p>TWA: 800 ppm 10 hour(s).</p>
N-Butane	106-97-8	2 - 5	<p>ACGIH TLV (United States, 2/2010). TWA: 1000 ppm 8 hour(s).</p> <p>NIOSH REL (United States, 6/2009). TWA: 1900 mg/m³ 10 hour(s).</p> <p>TWA: 800 ppm 10 hour(s).</p> <p>OSHA PEL 1989 (United States, 3/1989). TWA: 1900 mg/m³ 8 hour(s).</p> <p>TWA: 800 ppm 8 hour(s).</p>
Propane	74-98-6	1 - 5	<p>ACGIH TLV (United States, 2/2010). TWA: 1000 ppm 8 hour(s).</p> <p>NIOSH REL (United States, 6/2009). TWA: 1800 mg/m³ 10 hour(s).</p> <p>TWA: 1000 ppm 10 hour(s).</p> <p>OSHA PEL (United States, 11/2006). TWA: 1800 mg/m³ 8 hour(s).</p> <p>TWA: 1000 ppm 8 hour(s).</p> <p>OSHA PEL 1989 (United States, 3/1989). TWA: 1800 mg/m³ 8 hour(s).</p> <p>TWA: 1000 ppm 8 hour(s).</p>

Section 4. First aid measures

No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

Eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. DO NOT remove contact lenses, if worn. Obtain medical attention without delay, preferably from an ophthalmologist.

MAPP GAS (Petroleum Gas, MAPD)

Propane

TWA: 1900 mg/m³ 8 hour(s).
TWA: 800 ppm 8 hour(s).
ACGIH TLV (United States, 2/2010).
TWA: 1000 ppm 8 hour(s).
NIOSH REL (United States, 6/2009).
TWA: 1800 mg/m³ 10 hour(s).
TWA: 1000 ppm 10 hour(s).
OSHA PEL (United States, 11/2006).
TWA: 1800 mg/m³ 8 hour(s).
TWA: 1000 ppm 8 hour(s).
OSHA PEL 1989 (United States, 3/1989).
TWA: 1800 mg/m³ 8 hour(s).
TWA: 1000 ppm 8 hour(s).

Consult local authorities for acceptable exposure limits.

Section 9. Physical and chemical properties

Molecular weight	: 42 g/mol
Melting/freezing point	: -102.8°C (-153°F) This is based on data for the following ingredient: Propyne. Weighted average: -152.56°C (-242.6°F)
Critical temperature	: Lowest known value: 91.9°C (197.4°F) (propylene).
Vapor density	: Highest known value: 2 (Air = 1) (Isobutane). Weighted average: 1.47 (Air = 1)
Gas Density (lb/ft³)	: Weighted average: 0.2

Section 10. Stability and reactivity

Stability and reactivity	: The product is stable. Conditions to avoid: Stable as mixed; however, contains unstable materials (methylacetylene and propadiene). Weathering off (evaporation of light components) may allow concentration of the methylacetylene and propadiene to reach concentrations which would make mixture unstable on heating. Avoid heating of mixture or venting of lights that could cause lighter materials to weather off(evaporate).
Incompatibility with various substances	: Extremely reactive or incompatible with oxidizing agents. Reactive with metals. [Additionally, avoid contact with acetylide-forming metals (copper,silver and mercury). Copper alloys (such as brass) containing sixty six percent (66%) or more of copper should not be exposed to MAPD.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization	: May Occur.

Conditions to Avoid: Elevated temperatures and pressures. Polymerization catalysts, such as metal alkyls, can cause uncontrolled polymerization. Contamination with oxygen can cause propadiene to form hazardous peroxides.

INHIBITORS/STABILIZERS

An inhibitor is added to the MAPD mixture to prevent potential unstable peroxide formation. Butanes (iso and/or normal) are also added to the MAPD mixture to prevent potential concentration of the methylacetylene and propadiene from reaching concentration levels that would render the mixture unstable in case of weathering off (evaporation of light components).

Section 11. Toxicological information

Toxicity data

Product/ingredient name	Result	Species	Dose	Exposure
-------------------------	--------	---------	------	----------

MAPP GAS (Petroleum Gas, MAPD)

Isobutane	LC50 Inhalation Vapor	Rat	658000 mg/m3	4 hours
	LC50 Inhalation Gas.	Rat	57 pph	15 minutes
Butane	LC50 Inhalation Vapor	Rat	570000 ppm	15 minutes
	LC50 Inhalation Gas.	Rat	658000 mg/m3	4 hours
Propane	LC50 Inhalation Vapor	Rat	>800000 ppm	15 minutes
	LC50 Inhalation Gas.	Rat	>800000 ppm	15 minutes

Chronic effects on humans : **CARCINOGENIC EFFECTS:** Classified A4 (Not classifiable for humans or animals.) by ACGIH [Petroleum Gas, Liquefied (MAPD, MAPP GAS)].

Specific effects

- Carcinogenic effects** : See ACGIH Carcinogen classification.
Mutagenic effects : No known significant effects or critical hazards.
Reproduction toxicity : No known significant effects or critical hazards.

Section 12. Ecological information**Aquatic ecotoxicity**




Not available.

- Products of degradation** : Products of degradation: carbon oxides (CO, CO₂) and water.
Environmental fate : Not available.
Environmental hazards : No known significant effects or critical hazards.
Toxicity to the environment : Not available.

Section 13. Disposal considerations

Product removed from the cylinder must be disposed of in accordance with appropriate Federal, State, local regulation. Return cylinders with residual product to Airgas, Inc. Do not dispose of locally.

Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Class	Packing group	Label	Additional information
DOT Classification	UN1060	Methyl Acetylene and Propadiene mixtures, stabilized	2.1	Not applicable (gas).		-
TDG Classification	UN1060	Methyl Acetylene and Propadiene mixtures, stabilized	2.1	Not applicable (gas).		Explosive Limit and Limited Quantity Index 0.125 ERAP Index 3000 Passenger Carrying Road or Rail Index Forbidden
Mexico Classification	UN1060	Methyl Acetylene and Propadiene mixtures, stabilized	2.1	Not applicable (gas).		-

MAPP GAS (Petroleum Gas, MAPD)

“Refer to CFR 49 (or authority having jurisdiction) to determine the information required for shipment of the product.”

Section 15. Regulatory information

United States

- U.S. Federal regulations** : **United States inventory (TSCA 8b)**: All components are listed or exempted.
SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: propylene; Isobutane; Butane; allene; Propyne; Propane
SARA 311/312 MSDS distribution - chemical inventory - hazard identification:
propylene: Fire hazard, Sudden release of pressure; Isobutane: Fire hazard, Sudden release of pressure; Butane: Fire hazard, Sudden release of pressure; allene: Fire hazard, Sudden release of pressure; Propyne: Fire hazard, reactive; Propane: Fire hazard, Sudden release of pressure
Clean Water Act (CWA) 307: No products were found.
Clean Water Act (CWA) 311: No products were found.

Clean Air Act (CAA) 112 regulated flammable substances: propylene; Isobutane; Butane; allene; Propyne; Propane
Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

SARA 313

	<u>Product name</u>	<u>CAS number</u>	<u>Concentration</u>
Form R - Reporting requirements	: Propylene	115-07-1	40 - 50
Supplier notification	: Propylene	115-07-1	40 - 50

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

- State regulations** : **Connecticut Carcinogen Reporting**: None of the components are listed.
Connecticut Hazardous Material Survey: None of the components are listed.
Florida substances: None of the components are listed.
Illinois Chemical Safety Act: None of the components are listed.
Illinois Toxic Substances Disclosure to Employee Act: None of the components are listed.
Louisiana Reporting: None of the components are listed.
Louisiana Spill: None of the components are listed.
Massachusetts Spill: None of the components are listed.
Massachusetts Substances: The following components are listed: PROPYLENE (PROPENE); PROPYNE; ISOBUTANE; BUTANE; PROPANE
Michigan Critical Material: None of the components are listed.
Minnesota Hazardous Substances: None of the components are listed.
New Jersey Hazardous Substances: The following components are listed: PROPYLENE; 1-PROPENE; METHYL ACETYLENE; 1-PROPYNE; PROPADIENE; 1,2-PROPADIENE; Isobutane; PROPANE, 2-METHYL-; BUTANE; PROPANE
New Jersey Spill: None of the components are listed.
New Jersey Toxic Catastrophe Prevention Act: None of the components are listed.
New York Acutely Hazardous Substances: None of the components are listed.
New York Toxic Chemical Release Reporting: None of the components are listed.
Pennsylvania RTK Hazardous Substances: The following components are listed: 1-PROPENE; 1-PROPYNE; PROPANE, 2-METHYL-; BUTANE; PROPANE
Rhode Island Hazardous Substances: None of the components are listed.

Canada

- WHMIS (Canada)** : Class B1: Flammable Gases
Class A: Compressed Gas
CEPA DSL: Propylene; Isobutane; Butane; propadiene; Methyl Acetylene; Propane
CPR Compliance: This product has been classified with a hazard criteria of the CPR, and the MSDS contains all the information required for CPR.

MAPP GAS (Petroleum Gas, MAPD)

Section 16. Other information

United States

Label requirements : FLAMMABLE GAS.
MAY CAUSE FLASH FIRE.
CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE.
CONTENTS UNDER PRESSURE.

Canada

Label requirements : Class B1: Flammable Gases
Class A: Compressed Gas

Hazardous Material Information System (U.S.A.)

Health	*	1
Flammability		4
Physical hazards		1

National Fire Protection Association (U.S.A.)



Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.