Material Safety Data Sheet

MSDS ID NO.: 0100MAR019
Revision date: 12/07/2010

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product name: Marathon Propane
Synonym: Liquified Petroleum Gas; Odorized Propane; Propane HD-5;
Chemical Family: Aliphatic Hydrocarbon
Formula: CH3CH2CH3

Formula:

Manufacturer:
Marathon Petroleum Company LP
539 South Main Street
Findlay OH 45840

Other information: 419-421-3070
Emergency telephone number: 877-627-5463

2. COMPOSITION/INFORMATION ON INGREDIENTS

Propane is an aliphatic petroleum hydrocarbon. Ethyl mercaptan (15-25 ppm) is added as an odorant. The odor threshold of the mercaptan is 1 ppb.

Product information:

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
Marathon Propane	74-98-6	100	1000 ppm TWA	= 1000 ppm TWA = 1800 mg/m^3 TWA	

Component Information:

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
Propane	74-98-6	90-100	1000 ppm TWA	= 1000 ppm TWA = 1800 mg/m^3 TWA	
Propylene	115-07-1	0-5.0	500 ppm TWA		
Ethane	74-84-0	0.5-3.0	1000 ppm TWA		
Butane & Heavier	Mixture	0-2.5			
Sulfur	7704-34-9	0-0.01			

Notes: The manufacturer has voluntarily elected to reflect exposure limits contained in OSHA's 1989 air contaminants standard in its MSDS's, even though certain of those exposure limits were vacated in 1992.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

DANGER!

MAY REDUCE OXYGEN AVAILABLE FOR BREATHING OVEREXPOSURE MAY CAUSE CNS DEPRESSION
BREATHING HIGH CONCENTRATIONS CAN CAUSE IRREGULAR HEARTBEATS WHICH MAY BE FATAL
DIRECT CONTACT WITH LIQUID MAY CAUSE FROSTBITE (FREEZE BURNS)
SEE TOXICOLOGICAL INFORMATION SECTION FOR MORE INFORMATION

EXTREMELY FLAMMABLE COMPRESSED GAS LIQUID
VAPOR MAY CAUSE FLASH FIRE OR EXPLOSION

STABLE

Inhalation:

Product is an anesthetic at high concentrations, producing dizziness, headache, incoordination and narcosis; extremely high concentrations can cause asphyxiation and death by displacement of oxygen from the breathing atmosphere.

Ingestion:

Ingestion not likely.

Skin contact:

Vapor is generally non-irritating to skin. Direct contact with liquified product can cause "cold burn" or frostbite.

Eye contact:

Vapor is generally non-irritating to eyes. Direct contact with liquified product can cause "cold burn" or frostbite.

Carcinogenic Evaluation:

Product information:

Name	IARC Carcinogens:	NTP Carcinogens:	ACGIH - Carcinogens:	OSHA - Select Carcinogens:
Marathon Propane 74-98-6	NE			

Notes: The International Agency for Research on Cancer (IARC) has not evaluated this product.

Component Information:

Name	IARC Carcinogens:	NTP Carcinogens:	ACGIH - Carcinogens:	OSHA - Select Carcinogens:
Propylene 115-07-1		male rat-no evidence; female rat-no evidence; male mice-no evidence; female mice-no evidence	A4 - Not Classifiable as a Human Carcinogen	

Notes: The International Agency for Research on Cancer (IARC) has concluded that propylene is not classifiable as to its carcinogenicity to humans (Group 3).

4. FIRST AID MEASURES

Eye Contact:

4. FIRST AID MEASURES

Flush with large amounts of tepid water for at least 15 minutes. Immediately consult a physician if frostbite is suspected (cloudy lens or greyish white tissue around the eye).
Gas: Call a physician if symptoms or irritation occur.

Skin Contact:

If liquified product has caused a "frost burn", remove contaminated clothing. Thaw frostbitten areas slowly with lukewarm water or by wrapping affected areas with blankets. Do not rub affected areas. Let circulation reestablish itself naturally, exercising area if possible. Call a physician.

Ingestion:

Ingestion not likely. If swallowed, immediately call a physician.

Inhalation:

If affected, move person to fresh air. If breathing is difficult, administer oxygen. If not breathing or if no heartbeat, give artificial respiration or cardiopulmonary resuscitation (CPR). Immediately call a physician.

NOTES TO PHYSICIAN:

No data available.

Medical Conditions Aggravated By Exposure:

Inhalation of high vapor concentrations of components of this product in animals has produced cardiac sensitization. Such sensitization may cause changes in heart rhythms. This latter effect was shown to be enhanced by oxygen deficiency or the injection of adrenalin-like agents.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media:

For small fires, Class B fire extinguishing media such as CO2 or dry chemical can be used. For large fires use water spray or fog. Fire fighting should be attempted only by those who are adequately trained and equipped with proper protective equipment.

Specific hazards:

This product has been determined to be a flammable gas/liquid per the OSHA Hazard Communication Standard, and should be handled accordingly. For additional fire related information see NFPA 30 or North American Emergency Response Guide 115.

Special protective equipment for firefighters:

Bleve`s (boiling liquid expanding vapor explosions) can occur when a liquid in a pressurized container in close proximity to a fire reaches a temperature well above its boiling point. Its effect could lead to a catastrophic failure of the vessel resulting in flying equipment fragments, a shock wave and a fireball causing serious damage and death. Isolate hazard area. If safe to do so, stop the flow of gas and allow fire to burn out. Extinguishing the flame before shutting off the supply can cause the formation of explosive mixtures. In some cases it may be preferred to allow the flame to continue to burn. Use extreme caution when fighting liquefied petroleum gas fires. Keep surrounding area cool with water spray from a distance and prevent further ignition of combustible material. Avoid use of solid water streams. Contact with water and liquified product can cause increased vaporization.

5. FIRE FIGHTING MEASURES

Flash point:	-156 F
Autoignition temperature:	871 F
Flammable limits in air - lower (%):	2.1
Flammable limits in air - upper (%):	9.5

NFPA rating:

Health: 1
Flammability: 4
Instability: 0
Other: -

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Keep public away. Isolate and evacuate area. Shut off source if safe to do so. Leaking containers should be moved outdoors or to well-ventilated area and contents transferred to a suitable container. Product vapor is heavier than air and can collect in low areas that are without sufficient ventilation. Advise authorities and National Response Center (800-424-8802) if the product has entered a water course or sewer. Notify local health and pollution control agencies, if appropriate.

7. HANDLING AND STORAGE

Handling:

Product is stored as a liquid but used in the gaseous state. Comply with all applicable EPA, OSHA, NFPA and consistent state and local requirements. Use appropriate grounding and bonding practices. Store in properly closed containers that are appropriately labeled and in a cool well-ventilated area. Do not expose to heat, open flames, strong oxidizers or other sources of ignition. Avoid overpressurizing or overfilling cylinders. Do not cut, drill, grind or weld on empty containers since they may contain explosive residues.

Avoid repeated and prolonged skin contact. Exercise good personal hygiene including removal of soiled clothing and prompt washing with soap and water.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT

Engineering measures: Local or general exhaust required in an enclosed area or when there is inadequate ventilation.

Respiratory protection: Use atmosphere supplying respirators in the event of oxygen deficiency, when material produces vapors that exceed permissible limits or when excessive vapors are generated. Observe respirator assigned protection factors (APFs) criteria cited in federal OSHA 1910.134. Self-contained breathing apparatus should be used for fire fighting.

Skin and body protection: Wear insulated gloves to prevent skin contact and frostbite.

Eye protection: Use goggles or face-shield if there is a potential for splashing.

Hygiene measures: Use mechanical ventilation equipment that is explosion-proof.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance:	Colorless liquified gas.
Physical state (Solid/Liquid/Gas):	Liquid

9. PHYSICAL AND CHEMICAL PROPERTIES:

Substance type (Pure/Mixture):	Pure
Color:	Colorless
Odor:	Rotten-egg.
Molecular weight:	44
pH:	No data available.
Boiling point/range (5-95%):	-43.7 F
Melting point/range:	-305.8 F
Decomposition temperature:	Not applicable.
Specific gravity:	0.51 Liquid
Density:	4.4 lbs/gal @ 32 F
Bulk density:	No data available.
Vapor density:	1.56
Vapor pressure:	7600 mm Hg @ 80 F 147 psi @ 80 F
Evaporation rate:	No data available.
Solubility:	Moderate 6.5%.
Solubility in other solvents:	No data available.
Partition coefficient (n-octanol/water):	No data available.
VOC content(%):	No data available.
Viscosity:	No data available.

10. STABILITY AND REACTIVITY

Stability:	The material is stable at 70 F, 760 mm pressure.
Polymerization:	Will not occur.
Hazardous decomposition products:	Combustion produces carbon monoxide.
Materials to avoid:	Strong oxidizers such as nitrates, perchlorates, chlorine, fluorine.
Conditions to avoid:	Sources of heat or ignition.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:

Product information:

Name	CAS Number	Inhalation:	Dermal:	Oral:
Marathon Propane	74-98-6	LC50>550,000 ppm hrs [Guinea Pigs]	No data available	No data available

Toxicology Information:

PROPANE: Studies in laboratory animals indicate exposure to extremely high levels of propane (1 to 10 vol.% in air) may cause cardiac arrhythmias (irregular heartbeats) which may be serious or fatal.

BUTANES: Studies in laboratory animals indicate exposure to extremely high levels of butanes (1-10 or higher vol.% in air) may cause cardiac arrhythmias (irregular heartbeats) which may be serious or fatal.

PROPYLENE: At extremely high levels propylene gas acts as a general anesthetic and central nervous system depressant. Studies in laboratory animals indicate evidence of mild, reversible hydrocarbon nephropathy in male rats exposed to levels of 1000-4,500 ppm propylene for 90-days. The International Agency for Research in Cancer (IARC) has determined that there is inadequate evidence in experimental animals for the carcinogenicity of propylene. Overall evaluation: Propylene is not classifiable as to its carcinogenicity to humans (Group 3).

TARGET ORGANS: central nervous system, heart, eyes, skin, liver, kidney,

12. ECOTOXICOLOGICAL INFORMATION

Mobility:

No data available.

Ecotoxicity:

No data available.

Bioaccummulation:

No data available.

Persistance/Biodegradation:

Liquid product is not toxic to aquatic life or waterfowl. The aquatic 96 hour TLM for propane is >100 ppm.

13. DISPOSAL CONSIDERATIONS

Cleanup Considerations:

This product as produced is not specifically listed as an EPA RCRA hazardous waste according to federal regulations (40 CFR 261). However, when discarded or disposed of, it may meet the criteria of an "characteristic" hazardous waste. This material could become a hazardous waste if mixed or contaminated with a hazardous waste or other substance(s). It is the responsibility of the user to determine if disposal material is hazardous according to federal, state and local regulations.

Bleeding off small amounts of this product into the atmosphere or controlled incineration of large amounts are potential disposal methods provided all regulatory requirements are met.

14. TRANSPORT INFORMATION

49 CFR 172.101:

DOT:

Transport Information: This material when transported via US commerce would be regulated by DOT Regulations.

14. TRANSPORT INFORMATION

Proper shipping name:	Propane
UN/Identification No:	UN 1978
Hazard Class:	2.1
Packing group:	Not applicable.
DOT reportable quantity (lbs):	Not applicable.

Proper shipping name:	Propane
UN/Identification No:	UN 1978
Hazard Class:	2.1
Packing group:	Not applicable.

15. REGULATORY INFORMATION

US Federal Regulatory Information:

US TSCA Chemical Inventory Section 8(b):	This product and/or its components are listed on the TSCA Chemical Inventory.
OSHA Hazard Communication Standard:	This product has been evaluated and determined to be hazardous as defined in OSHA's Hazard Communication Standard.

EPA Superfund Amendment & Reauthorization Act (SARA):

SARA Section 302: This product contains the following component(s) that have been listed on EPA's Extremely Hazardous Substance (EHS) List:

Name	CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs
Propane	NA
Propylene	NA
Ethane	NA
Butane & Heavier	NA
Sulfur	NA

SARA Section 304: This product contains the following component(s) identified either as an EHS or a CERCLA Hazardous substance which in case of a spill or release may be subject to SARA reporting requirements:

Name	CERCLA/SARA - Hazardous Substances and their Reportable Quantities
Propane	NA
Propylene	NA
Ethane	NA
Butane & Heavier	NA
Sulfur	NA

SARA Section 311/312 The following EPA hazard categories apply to this product:

Acute Health Hazard
Fire Hazard
Sudden Release Of Pressure

SARA Section 313: This product contains the following component(s) that may be subject to reporting on the Toxic Release Inventory (TRI) From R:

Name	CERCLA/SARA 313 Emission reporting:
Propane	None
Propylene	= 1.0 % de minimis concentration
Ethane	None
Butane & Heavier	None
Sulfur	None

State and Community Right-To-Know Regulations:
The following component(s) of this material are identified on the regulatory lists below:

Propane

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	sn 1594
Pennsylvania Right-To-Know:	Present
Massachusetts Right-To Know:	Present
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Toxic; Flammable
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	flammable - fourth degree
New Jersey - Environmental Hazardous Substances List:	SN 1594 TPQ 500 lb
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Propylene

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	sn 1609
Pennsylvania Right-To-Know:	Environmental hazard
Massachusetts Right-To Know:	Present
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Toxic; Flammable
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	flammable - fourth degree
New Jersey - Environmental Hazardous Substances List:	SN 1609 TPQ 500 lb
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Ethane

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed

Propane

New Jersey Right-To-Know:	sn 0834
Pennsylvania Right-To-Know:	Present
Massachusetts Right-To Know:	Present
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Toxic
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	flammable - fourth degree
New Jersey - Environmental Hazardous Substances List:	SN 0834 TPQ 500 lb
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Butane & Heavier

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	Not Listed.
Pennsylvania Right-To-Know:	Not Listed.
Massachusetts Right-To Know:	Not Listed.
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Sulfur

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	Listed
Pennsylvania Right-To-Know:	Listed
Massachusetts Right-To Know:	Listed
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Listed
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	Not Listed

Propane

Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed

Canadian Regulatory Information:

Canada DSL/NDSL Inventory: This product and/or its components are listed either on the Domestic Substances List (DSL) or are exempt.

Name	Canada - WHMIS: Classifications of Substances:	Canada - WHMIS: Ingredient Disclosure:
Propane	A, B1	
Propylene	A, B1, D2B	
Ethane	A, B1	
Sulfur	B4	

NOTE: Not Applicable.

16. OTHER INFORMATION

Additional Information: The effectiveness of ethyl mercaptan as an odorant can be limited because the odor tends to fade over time, is masked by the presence of other odors, and people vary in their ability to recognize odors.

Prepared by: Mark S. Swanson, Manager, Toxicology and Product Safety

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End of Safety Data Sheet