

Material Safety Data Sheet

May be used to comply with OSHA's Hazard Communication Standard, 29 CFR 1910.1200. Standard must be consulted for specific requirements.

U.S. Department of Labor
Occupational Safety and Health Administration
(Non-Mandatory Form)

Form Approved
OMB No. 1218-0072



= 2SF30A =

IDENTITY (As Used on Label and List)

Propane

Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

Section I 3x670, 3x671, 3x673, 3x674, 3x676, 42729, 62008, 62009

Manufacturer's Name Supplier's Name

Emergency Telephone Number

716-798-4949

Address (Number, Street, City, State, and ZIP Code)

Telephone Number for Information

716-798-4949

One Bernzomatic Drive

Date Prepared

09-01-91

Medina, NY 14103

Signature of Preparer (optional)

Robert L. Maxon

Section II -- Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity, Common Name(s))	OSHA PEL	ACGIH TLV	Other Limits Recommended	% (optional)
→ Propane CAS #74-98-6	1000 ppm	1000 ppm	NA	100

NFPA HAZARD RATINGS

Health - 1

Flammability - 4

Reactivity - 0

NOTE: When propane fuel is burned efficiently the normal by-products of combustion are CO₂ and H₂O. Inefficient burning may add CO to the by-products of combustion.

Section III -- Physical/Chemical Characteristics

Boiling Point	-44°F	Specific Gravity (H ₂ O = 1)	Liquid @ 60°F	.51
Vapor Pressure (mm Hg.) @ 100°F	197 psig	Melting Point		N/A
Vapor Density (AIR = 1) @ 1 ATM @ 60°F	1.56	Evaporation Rate (Butyl Acetate = 1)		N/A
Solubility in Water	Not Soluble			
Appearance and Odor	Colorless - Rotten Egg Odor			

Section IV -- Fire and Explosion Hazard Data

Flash Point (Method Used)	-156°F Closed Cup	Flammable Limits	LEL 2.1	UEL 9.5
Extinguishing Media	Stop flow of gas or oxygen			
Special Fire Fighting Procedures	Use water to cool tanks			

Unusual Fire and Explosion Hazards

Auto ignition temp. 842°F Heavier than air (vapor density 1.5)

May travel a considerable distance to a source of ignition and flashback.

Section V — Reactivity Data

Stability	Unstable		Conditions to Avoid
	Stable	X	N/A

Incompatibility (Materials to Avoid) N/A

Hazardous Decomposition or Byproducts None

Hazardous Polymerization	May Occur		Conditions to Avoid
	Will Not Occur	X	N/A

Section VI — Health Hazard Data

Route(s) of Entry:	Inhalation? yes	Skin? yes	Ingestion? no
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Health Hazards (Acute and Chronic) Contact with liquid propane may cause frost burns.

Carcinogenicity:	NTP? N/A	IARC Monographs? N/A	OSHA Regulated? N/A
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Signs and Symptoms of Exposure High concentrations may cause headaches and drowsiness.

Medical Conditions Generally Aggravated by Exposure N/A

Emergency and First Aid Procedures Remove exposed person from contaminated area.

Section VII — Precautions for Safe Handling and Use

Steps to Be Taken in Case Material is Released or Spilled Remove ignition sources and ventilate area.

Waste Disposal Method Vent gas to atmosphere in flame free, spark free area outdoors.

Precautions to Be Taken in Handling and Storing Store at temperatures below 120°F in well ventilated, spark free, flame free area.

Other Precautions None

Section VIII — Control Measures

Respiratory Protection (Specify Type) Not required with normal use.

Ventilation	Local Exhaust	N/A	Special	N/A
	Mechanical (General)	N/A	Other	N/A

Protective Gloves Not required Eye Protection Not required

Other Protective Clothing or Equipment Not required

Work/Hygienic Practices N/A

SECTION IX - SHIPPING INFORMATION			
WHMIS CLASSIFICATION	A - Compressed Gas & B1 - Flammable Gas		
DOT	PROPER SHIPPING NAME Propane	HAZARD CLASSIFICATION Flammable Gas	UN. NO. 1075



DATE ISSUED: 03/28/90
SUPERSEDES DATE: 05/86

MATERIAL SAFETY DATA SHEET
Agway Propane, PO Box 4852, Syracuse, NY 13221

I. IDENTIFICATION AND EMERGENCY INFORMATION

PRODUCT NAME PROPANE
CAS NUMBER 74-98-6

OTHER NAMES
Liquified Petroleum Gas (LPG)

FORMULA C₃H₈

PRODUCT APPEARANCE AND ODOR
Vapor and liquid are colorless,
contains stenching agent

CLASSIFICATION Flammable Gas UN 1075

DISTRIBUTOR
Agway Petroleum Corporation
Marketing and Distribution
P.O. Box 4852
Syracuse, NY 13221
Telephone: 315/449-6494 (daytime)

PRODUCT INFORMATION PHONE NUMBER
315-449-6032

EMERGENCY PHONE NUMBER
Chemtrec: 800-424-9300

II. SUMMARY OF HAZARDS

COMPONENTS	CAS NUMBER	CONCENTRATION
Liquified Petroleum Gas	74-98-6	100%
Ethyl Mercaptan	75-08-1	< 1%
Methanol	67-56-1	< 1%

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

Health 1	0-Minimal
Flammability 4	1-Slight
Reactivity 0	2-Moderate
	3-Serious
	4-Severe

OCCUPATIONAL EXPOSURE LIMIT
LPG ACGIH (Source) 1989 TWA 1000 PPM 8 Hours

III. EMERGENCY FIRST AID PROCEDURES

INHALATION
Remove from exposure and call physician. For respiratory distress give air, oxygen and/or administer cardiopulmonary resuscitation. Keep warm and quiet until medical attention arrives.

EYE CONTACT
If liquid sets into eyes, contact physician immediately.

SKIN

This material is not expected to be absorbed through the skin. In case of excessive skin contact with liquid, immediately contact physician for treatment of frostbite.

INGESTION

DO NOT INDUCE VOMITING; call physician immediately.

IV. FIRE AND EXPLOSION**FLASH POINT**

AP - 160°F

AUTOIGNITION TEMPERATURE

AP 840°F

FLAMMABLE LIMITS (@ Normal Atmos. Temp. and Pressure)

Lower AP 2.0 (% Vol. in Air) Upper AP 9.5

EXTINGUISHING MEDIA

Dry Chemical, CO2 Halogenated Extinguishing Agent
Water Spray

FIRE AND EXPLOSION HAZARDS

This gas releases flammable vapors at well below ambient temperatures and readily forms flammable mixtures with air. Either the liquid or vapor may settle in low areas or travel some distance along the ground or surface to ignition sources where they may ignite or explode. Exposed to an ignition source it will burn in the open or be explosive in confined spaces.

SPECIAL FIREFIGHTING PROCEDURES

Gas fires should not be extinguished unless the gas flow can be stopped immediately. Shut off gas source; use water to keep fire-exposed containers cool and to protect men effecting the shutoff. Control fire until gas supply can be shut off. Minimize breathing of gases, vapor, fumes or decomposition products. Use supplied-air breathing equipment for enclosed or confined spaces or as otherwise needed.

V. HEALTH HAZARDS**INHALATION**

Oxygen deficient atmospheres may cause gasping, disorientation, unconsciousness and possibly death.

PRIMARY ROUTE

YES

EYE CONTACT

May cause irritation. Direct contact with liquified/pressurized gas or frost particles may produce severe and possibly permanent eye damage from freezer burn.

NA

SKIN IRRITATION

Neither a "corrosive" nor "irritant" by OSHA standards. Solid or liquid forms of this material and pressurized gas can cause freeze burns. Prolonged exposure tends to remove skin oils, possibly leading to dermatitis.

NA

INGESTION

Solid and liquid forms of this material and pressurized gas can cause burns.

NA

Potential human health risks vary from person to person. As a precaution, exposure to liquids, vapors, mists or fumes should be minimized.

VI. PHYSICAL AND CHEMICAL DATA

The following data are approximate or typical values and should not be used for precise design purposes.

BOILING RANGE

-45°C (-49°F) IBP
to 0°C (32°F) FBP

FREEZING POINT

-305°F

SPECIFIC GRAVITY (H₂O = 1 @ 39.2F)

0.50

VAPOR PRESSURE

208 psig @ 100°F

SOLUBILITY IN WATER @ 1 ATM & 25C (77°F)

Negligible; < 0.1%

pH

Essentially neutral

STABILITY

Stable

OTHER PHYSICAL AND CHEMICAL PROPERTIES

Gross heat of combustion @ 60°F = 21,650 BTU/LB or 2,550 BTU/FT

APPEARANCE AND ODOR

Colorless liquid/invisible vapor; faint gassy odor between 5,000—20,000 PPM

CONDITIONS TO AVOID

Heat, sparks, and open flames

MATERIALS TO AVOID

Strong acids, alkalis, and oxidizers such as chlorine (gas or liquid) and oxygen, sodium hypochlorite or calcium hypochlorite.

HAZARDOUS DECOMPOSITION PRODUCTS

Combustion may produce carbon monoxide and other harmful substances.

MOLECULAR WEIGHT

45

VAPOR DENSITY (Air = 1)

1.5

VOLATILE CHARACTERISTICS

100% Complete

HAZARDOUS POLYMERIZATION

Not expected to occur

VII. PROTECTION AND PRECAUTIONS

GENERAL COMMENTS

Consult D.O.T regulations about the shipment of petroleum gases. The most common hazard is leakage due to faulty pressure control regulators. Large pressure build-up can result in explosive decompression at the cylinder head causing the cylinder to rocket like a missile. Use pressure-reducing regulator when connecting to lower pressure piping systems. Prevent entrapment of liquid in closed systems. Use check valve to prevent back-flow into storage container. Chain cylinders when not in use.

Store and use gas containers only in well-ventilated areas not exceeding 100°F and protected from dampness, salt and corrosive chemicals. Cylinder storage should be segregated from oxidizers and away from heavy traffic areas. Avoid dragging, rolling or sliding cylinders. Avoid creating static electricity.

Odor is not an adequate warning of potentially hazardous concentrations in air. Releases of gases may cause flammable atmosphere with explosion potential. Do not fill or store near heat, sparks, flame or strong oxidants. Before entering into confined spaces safety procedures should be followed such as: monitoring for oxygen deficiency and flammables, use of safety glasses, use of air respiratory protection, chemical-resistant gloves, use of chemical resistant apron or other clothing.

VIII. TRANSPORTATION AND OSHA RELATED LABEL INFORMATION

TRANSPORTATION INCIDENT INFORMATION

For further information relative to spills resulting from transportation incidents, refer to latest Department of Transportation Emergency Response Guidebook for Hazardous Material Incidents, DOT P 5800.3.

DOT IDENTIFICATION NUMBER

Liquefied Petroleum Gas / Flammable Gas / UN 1075

OSHA REQUIRED LABEL INFORMATION

The following Hazard Warning should be found on a label, bill of lading or invoice accompanying this shipment.

DANGER!
EXTREMELY FLAMMABLE

ASPHYXIAN
MATERIAL REDUCES OXYGEN AVAILABLE FOR BREATHING
PROLONGED CONTACT MAY CAUSE FROSTBITE

IX. ENVIRONMENTAL INFORMATION

EPA HAZARD CLASSIFICATION CODE:

Acute Hazard

Chronic Hazard

Fire Hazard

XXX

Pressure Hazard
XXX

Reactive Hazard

PRECAUTIONS IF MATERIAL IS SPILLED OR RELEASED

Shut off gas and eliminate all potential sources of ignition. Evacuate all non-essential personnel; minimize breathing vapors. Ventilate enclosed area; water spray may be used to reduce vapors. Minimize skin contact. Liquid spills will vaporize forming cold, dense vapor clouds that do not readily disperse. Avoid vapor cloud, even with proper respiratory equipment.

WASTE DISPOSAL METHODS

Releases are expected to cause only localized non-persistent environmental damage. Waste mixtures containing these gases should not be allowed to enter drains or sewers where there is danger of their vapors being ignited. It is preferable to dispose of these gases in a vaporous form. These gases may be used as an auxiliary fuel or disposed of by burning in a properly designed flare or incinerator. Venting of the gases to the atmosphere should be avoided.

"EMPTY" CONTAINER WARNING

"Empty" containers retain residue and can be dangerous. THEY MAY EXPLODE IF SUBJECTED TO CUTTING, WELDING, GRINDING, EXPOSURE TO STATIC ELECTRICITY, OR ANY OTHER SOURCES OF IGNITION. Do not attempt to clean tanks. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

The information and recommendations contained herein are a compilation of data provided by various suppliers and, to the best of Agway Petroleum Corporation's (APC) knowledge and belief, accurate and reliable as of the date issued. APC does not warrant or guarantee their accuracy or reliability, and APC shall not be liable for any loss or damage arising out of the use thereof. The information and recommendations are offered for the user's consideration and examination, and it is the user's responsibility to satisfy itself that they are suitable and complete for its particular use. If buyer repackages this product, legal counsel should be consulted to insure proper health, safety and other necessary information is included on the container.

The Environmental Information included under Section IX hereof as well as the Hazardous Materials Identification System (HMIS) and National Fire Protection Association (NFPA) ratings have been included by APC in order to provide additional help and hazard classification information. The ratings recommended are based upon the criteria supplied by the developers of these rating systems, together with APC's interpretation of the available data.



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