MATERIAL SAFETY DATA SHEET

Coleman Peak 1 60% Butane 40% Propane Gas Mixture

Section I

Supplier's Name:
Koch Hydrocarbon Co.

Address:
P.O. Box 29
Medford, Oklahoma 73759

24 Hour Emergency Telephone Number:
CHEMTREC 800-424-9300

Telephone Number for Information:
316-832-6215
Date Prepared: 10-31-96

Section II - Hazardous Ingredients/Identity Information

Hazardous Component:
Propane (74-98-6) N-Butane

Exposure Limit:
ACGIH - Classed as a simple asphyxiant
OSHA PEL - 1,000 ppm, 1,800 mg/m^3-8Hr TWA

Identity Information:
Chemical Name or Synonym: Liquified Petroleum Gas
Chemical Family: Alkane Hydrocarbon
Chemical Formula: C_4H_{10}, C_3H_8
Proper Shipping Name: Liquefied Petroleum Gas
Hazardous Classification: "Flammable Gas"
DOT Identification: UN 1075
Label(s) Required: Flammable Gas, Class 2.1

NFPA Hazard Rating

4 - Severe
3 - Serious
2 - Moderate
1 - Slight
0 - Minimal

Section III - Physical/Chemical Characteristics

Boiling Point: -15 degrees F
Vapor Pressure: 96 psig max @ 100 degrees F
Vapor Density (Air - 1): 1.8
Solubility in Water: Slightly

Volatiles, % by Volume: 100

Specific Gravity (H_2O): .555
Melting Point: N/A
Evaporation Rate (Butyl Acetate - 1): diffuses readily, <1
Appearance and Odor: Clear, unpleasant odor similar to garlic (odorized by - Ethyl Mercaptan)
Molecular Weight: 53.3

Section IV - Fire and Explosion Hazard Data

Flash Point: -156 degrees F
LEL: 1.5 - 1.9

Auto Ignition Temperature: 940 degrees F
UEL: 8.5 - 9.5

Extinguishing Media: Dry Chemical Class A-B-C, CO_2, water spray or Halon

Special Fire Fighting Procedures: Stop flow of gas. Use water to keep fire-exposed containers cool. Use water spray to disperse unignited gas or vapor. Use self-contained breathing apparatus in confined spaces. Evacuate until gas dissipates completely.

Unusual Fire and Explosion Hazards: Flammable liquid and gas under pressure. May form explosive mixtures with air. Containers exposed to fire or excessive heat may rupture explosively.

Section V -- Reactivity Data

Stability: Stable

Conditions to Avoid: Heat sparks, flame and build-up of static electricity. Prevent vapor accumulation .

Incompatibility (*Materials to Avoid*): Strong Oxidizers

Hazardous Decomposition of Byproducts: Carbon Monoxide

Hazardous Polymerization: Will Not Occur.

Section VI -- Health Hazard Data

Route(s) of Entry: Skin - Frostbite (Primary) Lungs - Inhalation (Primary) Ingestion - N/A

Health Hazards (*Acute and Chronic*): Classified as a simple asphyxiant, minimal oxygen content should be 19.5% by volume under normal atmospheric conditions (ACGIH). Central nervous system depressant. May cause anemia and irregular heart rhythm.

Carcinogenicity: Non-carcinogenic NTP: N/A IARC Monographs: N/A OSHA Regulated: N/A

Signs and Symptoms of Exposure: High concentration can lead to symptoms ranging from dizziness to anesthesia and respiratory arrest if inhaled. Eyes can be moderately irritated.

Medical Conditions Generally Aggravated by Exposure: Caution is recommended for personnel with pre-existing central nervous system or chronic respiratory diseases.

Emergency and First Aid Procedures: Remove to fresh air. If not breathing, administer air, oxygen or CPR. Skin - keep affected area warm and submerge in lukewarm water. Flush eyes immediately with water.

DOT Cylinders: DOT specification cylinders must be periodically requalified or they must be removed from service. Store and use cylinders with relief valve in the containers' vapor space.

Section VII -- Precautions for Safe Handling and Use

Training: In the interest of safety, all persons employed in handling propane gas must be trained in proper handling and operating procedures. This training should also be documented.

Steps to Be Taken in Case Material is Released or Spilled: Keep public away. Shut off gas supply. Eliminate sources of ignition. Ventilate area. Disperse with water spray. Contact between skin and liquid propane can cause freezing of tissue.

Waste Disposal Method: Controlled burning in compliance with applicable codes and laws. Contact supplier.

Precautions to Be Taken in Handling and Storing: Keep containers away from heat sources and store containers in upright position. Containers should not be dropped. Container temperature should not exceed 130 degrees F (54.4 C).

Other Precautions: Close container service valve when not in use and when empty. Install protective cap when not connected for use. Containers, even those that have been emptied, can contain explosive vapors. Do not cut, drill, grind, weld or perform similar operations on or near containers.

Section VIII - Control Measures

Respiratory Protection: Use NIOSH or MSHA approved equipment when airborne exposure limits are exceeded.

Ventilation: Provide adequate ventilation where this product is used to meet TLV requirements and to keep concentration in air below 25% of the L.E.L. Mechanical ventilators must meet N.E.C. requirements for being explosion proof.

Protective Gloves: Impervious plastic or neoprene-coated canvas.

Eye Protection: Face shield or chemical goggles when changing valves, hoses, fittings or performing maintenance/service operations in liquid propane service.

Other Protective Clothing or Equipment: N/A

Work/Hygienic Practices: Avoid breathing gas, secure and evacuate area if gas is smelled.

Section IX - Environmental/Regulatory Information

The following information may be useful in complying with various state and federal laws and regulations under various environmental statutes:

Reportable Quantity (RQ), EPA Regulation 40 CFR 302 (Cercla Section 102): No RQ for product or any constituent greater than

1% or 0.1% (carcinogen).

Threshold Planning Quantity (TPQ), EPA Regulation 40 CFR 355 (SARA Sections 301-304): No TPQ for product or any constituent greater than 1% or 0.1% (carcinogen).

Toxic Chemical Release Reporting, EPA Regulation 40 CFR 372 (SARA Section 313): No toxic chemical is present greater than 1% or 0.1% (carcinogen).

Hazardous Chemical Reporting, EPA Regulation 40 CFR 370 (SARA Sections 311-312).

		Acute	Chronic	Fire	Pressure	Reactive
EPA Hazard Classification Code:	Hazard	Hazard	Hazard	Hazard	Hazard	
		XXX		XXX	XXX	

OSHA Hazard Determination: This material is hazardous as defined by OSHA's Hazard Communication Standard, 29 CFR 1910.1200.

RCRA: This product is not subject to the 40 CFR part 268.30 land ban on the disposal of certain hazardous wastes.

This product does not contain CFC's, HFC's, or other ozone depleting compounds as defined by the EPA.

Section X - Supplemental Information

Ethyl mercaptan is the preferred warning agent for propane. This is because, in addition to meeting NFPA #58 guidelines for odorization of LP gases, its liquid/gas equilibrium properties more closely match that of propane, and it has a higher odor intensity at lower concentrations when compared to other odorizing agents. Ethyl mercaptan was first chosen as a viable warning agent in a study by the U.S. Bureau of Mines in 1931, and later confirmed in independent studies by the U.S. Energy Research and Development Administration (ERDA) in 1977.

Although ethyl mercaptan has excellent warning properties, NFPA #58 A-1-4.1 states "it is recognized that no odorant will be completely effective as a warning agent in every circumstance." Studies conducted by Gas Research Institute (GRI), Institute of Gas Technology (IGT), Bartlesville Energy Technology Center, Natural Gas Odorizing, Inc., and others highlight instances where odorants may not be as effective. For example, it has been reported that odor fading caused by chemical oxidation, absorption, and adsorption can occur in vessels and distribution systems carrying odorized propane. In an underground leak, the odorant may be adsorbed or absorbed by certain soils as the gas passes through the soil to the surface. In a basement, the odorant may be adsorbed or absorbed by masonry surfaces. Extreme cold weather may also reduce the effectiveness of the odorant. It has also been reported that being exposed to an odor for a period of time may affect a person's ability to detect that odor. Other odors in an area, such as a musty basement, may mask or cover up the LP gas odor. Be advised that even a faint smell of odorant could indicate a dangerous situation.

CHEMICAL OXIDATION: Contact with air (oxygen), rust, or other oxidation agents over a period of time can result in odorant fading. Chemical oxidation is most likely to occur in newly installed tanks and in rusty, wet, or improperly prepared tanks. For this reason it is extremely important for propane tanks to be properly purged, especially when the tank is new or has been allowed to run empty, thus allowing potential air or water contamination.

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