

Appendix A-Propane Material Safety Data Sheet

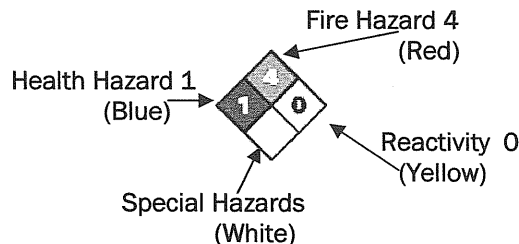
Section I

**MATERIAL SAFETY DATA SHEETS**

Supplier's Name: DOUGLASS DISTRIBUTING Emergency Phone#: (800) 736-4316  
Address: 325 EAST FOREST AVENUE SHERMAN, TX 75090  
Chemical Name: LIQUEFIED PETROLEUM GAS or PROPANE Formula: C3H8  
CAS Registry No: 74-98-6 Chemical Family: Hydrocarbon

**WARNING: Danger! Extremely flammable.**

Compressed gas, under pressure, Asphyxiant in high concentrations. Contact with liquid causes burns similar to frostbite. OSHA permissible exposure limit (PEL) 1000ppm for 8-hour workday.



Appearance and Odor: Vapor and Liquid are colorless. 4=Severe 3=Serous 2=Moderate 1=Slight 0=Minimal  
Product contains an odorant (unpleasant odor).

Section II

**HAZARDOUS INGREDIENTS**

Hazardous Mixtures: Air with 2.15 to 9.60 percent propane.

Section III

**PHYSICAL DATA**

Boiling Point: -44 °F  
Vapor Pressure (PSIG) at 100 °F: 205  
Specific Gravity (H2O=1): 0.51  
Percent Volatile by Volume (%): 100  
Vapor Density (air = 1): 1.52  
Solubility in Water: Slight  
Evaporation rate: Gas at normal ambient temperatures

Section IV

**FIRE AND EXPLOSION HAZARD DATA**

Flash Point: -156 °F (-104 °C) Classification: Flammable Gas UN 1075  
Flammable Limits: LFL: 2.15% UFL: 9.6%  
Extinguishing Media: Water spray; Class A:B:C or B:C fire extinguisher  
SPECIAL FIRE-FIGHTING PROCEDURES: Stop flow of gas. Use water to keep fire-exposed containers cool. Use water spray to disperse un-ignited gas or vapor. If ignition has occurred and no water is available, tank metal may weaken from overheating. Evacuate area. If gas has not ignited, LP-Gas liquid or vapor may be dispersed by water spray or flooding.

Decomposition Products under Fire Conditions: Fumes, smoke, carbon monoxide, aldehydes and other decomposition products, in the case of incomplete combustion or when used as an engine fuel.

"EMPTY" Container warning: "Empty" containers retain residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SODDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS OR OTHER SOURCES OF IGNITION: THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to clean since residue is difficult to remove. All containers should be disposed of in an environmentally safe manner and in accordance with government regulations.

Section V

**HEALTH HAZARD**

OSHA P.E.L.:1000 PPM ACGIII TLV: 1000 PPM (Effects of Overexposure): Inhalation - concentrations can lead to symptoms ranging from dizziness to anesthesia and respiratory arrest. Eyes - moderate irritation. Emergency & First Aid procedures: Inhalation - remove to fresh air. Guard against self-injury. Apply artificial respiration if breathing has stopped.

Section VIREACTIVITY DATA

Stable:  Unstable:  Hazardous Decomposition Products: None  
 Incompatibility (materials to avoid): Mixing with oxygen or air, except at burner  
 Hazardous Polymerization: May occur  Will not occur

Section VIISPILL OR LEAK PROCEDURES

Steps to be taken in case material is released: Keep public away. Shut off supply of gas. Eliminate sources of ignition. Ventilate the area. Disperse with water spray. Contact between skin and gas in liquid form can cause freezing of tissue causing injury similar to thermal burn.  
 Waste disposal method: Controlled burning. Contact supplier.

Section VIIISPECIAL PROTECTION INFORMATION

Respiratory Protection: Stay out of gas or vapor (because of fire hazard). Ventilation: Explosion-proof motors and keep sources of ignition at safe distances. Personal Protective Equipment and Apparel: Gloves resistant to the action of LP-gases, goggles and protection against accidental release of pressurized products.

Section IXSPECIAL PRECAUTIONS

Precautions to be taken when handling and storing: Keep containers away from heat sources and store in upright position. Containers should not be dropped. Keep container valve closed when not in use.  
 Other Precautions: Install protective caps when not connected for use.

Section XTOXICOLOGICAL INFORMATION

OSHA Carcinogen Classification (29 CFR 1910): Not listed/applicable   
 U.S. Department of Health (21 CFR 184.1655): Generally recognized as safe (GRAS) as direct human food ingredient when used as a propellant, aerating agent and as gas defined in Section 170.3 (o) (25).

Section XIDOT LABELING INFORMATION (49 CFR 100-199)

Proper Shipping name: Liquefied Petroleum Gas Identification No.: UN 1075  
 Hazardous Classification: Flammable Gas Label(s) Required: Flammable Gas

Section XIIISSUE INFORMATION

Issue Date: \_\_\_\_\_

This material safety data sheet and the information it contains is offered to you in good faith as accurate. The supplier does not manufacture this product but is a supplier of the product independently manufactured by others. Much of the information contained in this data sheet was received from sources outside of our Company. To the best of our knowledge this information is accurate, but this data sheet may not be adequate for all individuals and/or situations. It is the user's obligation to evaluate and use this product safely, comply with all applicable laws and regulations and to assume the risks involved in the use of this product.

NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSES, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THIS INFORMATION, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE.