



**MATERIAL SAFETY
DATA SHEET**

00004 Revised 4/1/88

PRODUCT NAME — PROPANE

FARMLAND INDUSTRIES, INC.

Refined Fuel DIVISION

P.O. BOX 7305
KANSAS CITY, MO. 64116

POWER PLANT AUG 2 (1997)
~~Plant Stop Plumbing~~
24 HOUR Shop

EMERGENCY TELEPHONE

FARMLAND — 316-251-4000

CHEMTREC — 1-800-424-9300

SECTION 1 — PRODUCT IDENTIFICATION

COMMON NAME — Propane

CHEMICAL NAME — Liquefied Petroleum Gas

CAS # 74-98-6

CHEMICAL FORMULA — C₃H₈

CHEMICAL FAMILY —

SECTION 2 — HAZARDOUS COMPONENTS

INGREDIENTS	PERCENTAGES	PEL (OSHA)	TLV (ACGIH)	OTHER
Propane	> 90	1000 ppm	NA	

*Ethyl-mercaptan (added as a malodorant)
approximately 1 lb. per 10,000 gallons of
liquid propane. (ANSI/NFPA-1982)

Hazard Index: Health -1
Flammability -4
Reactivity -0

(See Sections 6 & 9)

SECTION 3 — PHYSICAL DATA

BOILING POINT -44° F SPECIFIC GRAVITY (H₂O = 1.0) 0.5 VAPOR PRESSURE 190 psia @ 100° F

PERCENT VOLATILES 100 VAPOR DENSITY (AIR = 1.0) 1.5 SOLUBLE IN WATER YES NO

EVAPORATION RATE (ETHER = 1.0) Faster

APPEARANCE AND ODOR — Colorless gas with unpleasant odor caused by added odorant.

SECTION 4 — FIRE AND EXPLOSION DATA

FLASH POINT	AUTO IGNITION TEMP	FLAMMABLE LIMITS IN AIR	LOWER	UPPER
Gas <u>-156° F</u>	<u>874 F</u>	% BY VOLUME	<u>2.2</u>	<u>10</u>

EXTINGUISHING MEDIA — Dry chemical and CO₂ for small fires. Stop flow of gas

SPECIAL FIRE FIGHTING PROCEDURES — For large fires let it burn out - try to stop leak. Stay away from ends of tank. Evacuate to 1 mile if flame is impinging on vapor space of tank. Cool containers exposed to fire with water spray. Evacuate immediate area for small fire.

UNUSUAL FIRE AND EXPLOSION HAZARDS —

Extremely flammable compressed gas. Vapors are heavier than air and can travel to source of ignition and flash back.

SECTION 5 — HEALTH HAZARD DATA

EFFECTS OF OVER EXPOSURE

ACUTE — Propane is an asphyxiant. Inhalation can cause dizziness, disorientation and suffocation.

CHRONIC — Not probable.

BODY PARTS — Liquid contact on skin can cause frostbite

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE — Respiratory illnesses

IS MATERIAL A CARCINOGEN OR POTENTIAL CARCINOGEN? YES NO

EMERGENCY AND FIRST AID PROCEDURES — Remove patient to fresh air. Apply artificial respiration not breathing -- give oxygen if breathing. Flush eyes and/or skin with large amounts of water. Evaluate liquid contact for skin burns. Seek medical assistance.

SECTION 6 — REACTIVITY

STABLE YES NO — CONDITIONS TO AVOID — *Ethyl-mercaptain might under certain conditions (when oxygen, water, iron oxide or other oxidizers are present in containers or piping)
INCOMPATIBILITY (MATERIALS TO AVOID) — react with oxidizers which diminish its distinct smell.

HAZARDOUS DECOMPOSITION PRODUCTS — Carbon Monoxide

HAZARDOUS POLYMERIZATION YES NO — CONDITIONS TO AVOID —

SECTION 7 — SPILL OR LEAK PROCEDURES

STEPS TO TAKE IF MATERIAL IS RELEASED OR SPILLED — Eliminate all sources of ignition. Evacuate all unauthorized personnel. Disperse vapors with sustained water spray. Wear self-contained pressure demand respirator. If possible, stop the leak.

WASTE DISPOSAL PROCEDURES — N.A.

SECTION 8 — PROTECTIVE EQUIPMENT TO BE USED

RESPIRATORY EQUIPMENT — Concentration in atmosphere determines protection. Air purifying cartridge respirator for light exposure - self-contained pressure demand for heavy exposure.

EYE PROTECTION —

Splash proof, chemical goggles.

PROTECTIVE CLOTHING —

Impervious gloves

VENTILATION REQUIREMENTS —

Explosion proof ventilation to control vapor concentration.

OTHER (Safety Showers, Eyewash Stations, etc.) —

In area where exposure warrants.

SECTION 9 — SPECIAL PRECAUTIONS AND COMMENTS

HANDLING AND STORING — Extremely flammable compressed gas should be kept away from heat, sparks or flame. Ground dispensing equipment to avoid static build-up and spark. Bond containers when transferring material.

*If ethyl-mercaptain odor is not detectable in the propane, immediately contact and notify the supplier.

OTHER — This product is classified as an oil under Section 311 of the Clean Water Act. Spills entering surface waters or sewers leading to surface water that cause a sheen must be reported to the National Response Center -- 800-424-8802

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DATE 4/1/88