Tiba International For Refrigeration
طيبة الدولية للتبريد

R-290

Safety Data Sheet

R-290 PROPANE

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: PROPANE
OTHER NAME: Liquefied Petroleum Gas (LPG)
USE: Refrigerant Gas

Tiba International For Refrigeration

Headquarter: 54 Tayaran Street – Nasr City – Cairo – Egypt.
Tel.: (+202) 22639232 Fax : (+202) 24029417
Website: www.intertiba.com
Mobile: +20 114 7905 214 / + 20 111 0004 020
E-mail: info@intertiba.com sales@intertiba.com

2. HAZARDS IDENTIFICATION

CLASSIFICATION: **Flammable Gas, Gas under pressure, Compressed Gas**
SIGNAL WORD: **DANGER**
HAZARD STATEMENT(S): **Extremely flammable gas, Contains gas under pressure, may explode if heated**
SYMBOL(S): **Flames, Gas Cylinder**

PRECAUTIONARY STATEMENT(S):

Prevention: Keep away from heat, sparks, open flame, and hot surfaces. No Smoking
Response: Leaking gas fire: Do not extinguish unless leak can be stopped immediately. Eliminate all ignition sources if safe to do so.
Storage: Protect from sunlight, store in a well ventilated place.

EMERGENCY OVERVIEW:
Flammable gas. Liquid under high pressure.

POTENTIAL HEALTH EFFECTS:
Effects of Overexposure:

Eye Contact
No known significant effects or critical hazards.

Skin Contact
No known significant effects or critical hazards.

Inhalation
Acts as simple asphyxiant.

Ingestion
Ingestion is not a normal route of exposure for gases

3. COMPOSITION / INFORMATION ON INGREDIENTS

INGREDIENT NAME	CAS NUMBER	WEIGHT %
Propane	74-98-6	100

COMMON NAMES and SYNONYMS
Liquefied Petroleum Gas (LPG) R-290

There are no impurities or stabilizers that contribute to the classification of the material identified in Section 2

4. FIRST AID MEASURES

SKIN:
In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

EYES:
Immediately flush eyes with plenty of warm water for at least 15 minutes. Get medical attention.

INHALATION:
Immediately remove to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, qualified personnel may give oxygen. Get medical attention immediately.

INGESTION:
Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms appear.

ADVICE TO PHYSICIAN:
No specific treatment. Contact poison treatment specialist immediately if large amounts have been inhaled or ingested.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

FLASH POINT:	
AUTO IGNITION TEMPERATURE:	468 C (874 F)
UPPER EXLOSIVE LIMIT (volume % in air):	9.5%
LOWER EXPLOSIVE LIMIT (volume % in air):	2.2%
EXTINGUISHING MEDIA:	These products are carbon oxides (CO,CO_2).

UNUSUAL FIRE HAZARDS:
Extremely flammable in presence of open flames, sparks and static discharge of oxidizing materials.

FIRE FIGHTING INSTRUCTIONS:

CO_2, dry chemicals, water spray, or fog. If involved in fire, shut off flow immediately if it can be done without risk. Apply water from a safe distance to cool container and protect surrounding area. Extremely flammable. Gas may accumulate in confined areas, travel considerable distance to source of ignition and flash back causing fire or explosion. Fire fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face piece operated in positive pressure mode.

6. ACCIDENTAL RELEASE MEASURES

SPILL AND LEAK PPROCEDURES:

Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment (Section 8). Shut off gas supply if this can be done safely. Isolate area until gas has dispersed. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

7. HANDLING AND STORAGE

NORMAL HANDLING:

Keep container closed. Use only with adequate ventilation. Keep away from heat, sparks and flame. To avoid fire, minimize ignition sources. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Do not puncture or incinerate container. High pressure gas. Use equipment rated for cylinder pressure. Close valve after each use and when empty. Protect cylinders from physical damage; do not drag, roll, slide, or drop. Use a suitable hand truck for cylinder movement.

STORAGE RECOMMENDATIONS:

Keep container tightly closed. Keep container in a cool, well-ventilated area. Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Cylinder temperatures should not exceed 52°C (125°F).

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS:

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. The engineering controls also need to keep gas, vapor or dust concentrations below any explosive limits. Use explosion-proof ventilation equipment

PERSONAL PROTECTION:

SKIN PROTECTION:

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

EYE PROTECTION:

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

RESPIRATORY PROTECTION:

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

The applicable standards are (US) 29 CFR 1910.134 and (Canada) Z94.4-93

EXPOSURE GUIDELINES

(Exposure Limits)

INGREDIENT NAME	ACGIH TLV	OSHA PEL	OTHER LIMIT
Propane	1000 ppm	1000 ppm	

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Colorless, liquefied compressed gas
PHYSICAL STATE:	Gas at ambient temperature
ODOR:	Odorless
SOLUBILITY IN WATER:	0.0244 g/liter
BOILING POINT:	-43.2°F (-41.79°C)
VAPOR PRESSURE :	109 psig
FLASHPOINT:	-104˚C (-155˚F)
EVAPORATION RATE:	Not available
FLAMMABILITY:	Extremely flammable in the presence of ignition sources or oxidizing materials
LEL/UEL:	2.2% / 9.5%
PARTITION COEFFICIENT n-OCTANOL/WATER:	Log Pow: 1.09
AUTO IGNITION TEMPERATURE:	468 C (874 F)
DECOMPOSITION TEMPERATURE:	Data not available
VISCOSITY:	Not applicable
VAPOR DENSITY:	1.6 (Air=1)
% VOLATILES BY VOLUME:	100%
DENSITY:	0.116 lb / cu ft
pH:	Not applicable
MELTING/FREEZING POINT:	-302.6°F (-185.89°C)
SPECIFIC VOLUME (ft^3/lb):	8.62069
MOLECULAR FORMULA:	C_3H_8
MOLECULAR WEIGHT:	44.11 g/mole
BOILING/CONDENSATION POINT :	-161˚C / 259˚F

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY

The product is stable.

REACTIVITY:

Not reactive under normal storage conditions.

INCOMPATIBILITY WITH OTHER MATERIALS:

Extremely reactive or incompatible with oxidizing agents.

CONDTIONS TO AVOID:

Avoid all possible sources of ignition (spark or flame). Do not cut, weld, braze, solder, drill, or grind container

11. TOXICOLOGICAL INFORMATION

TOXICITY DATA:

IDLH: 2100 ppm

Chronic effects on humans: Causes damage to the following organs: the nervous system.

Acute toxic effects on humans: No specific information is available in our database regarding the other toxic effects of this material for humans.

SPECIFIC EFFECTS:

Carcinogenic effects: No known significant effects or critical hazards.

Mutagenic effects: No known significant effects or critical hazards.

Reproductive toxicity: No known significant effects or critical hazards.

12. ECOLOGICAL INFORMATION

DEGRADABILITY (BOD):

Products of degradation: These products are carbon oxides (CO,CO_2) and water.

Toxicity of the products of biodegradation: The product itself and its products of degradation are not toxic.

Environmental fate: Not available

Environmental hazards: No known significant effects or critical hazards.

Toxicity to the environment: Not available.

13. DISPOSAL CONSIDERATIONS

Product removed from the cylinder must be disposed of in accordance with appropriate Federal, State, and local regulations.

14. TRANSPORT INFORMATION

US DOT ID NUMBER: UN 1978

US DOT SHIPPING NAME: PROPANE

US DOT HAZARD CLASS: 2.1

US DOT PACKING GROUP: NA

15. REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS:

TSCA 8(b) inventory: Propane

SARA 302/304/311/312 extremely hazardous substances: No products were found.

SARA 302/304 emergency planning and notification: No products were found.

SARA 302/304/311/312 hazardous chemicals: Propane

SARA 311/312 MSDS distribution – chemical inventory – hazard identification: Propane: Fire hazard, Sudden Release of Pressure

Clean Water Act (CWA) 307: No products were found.

Clean Water Act (CWA) 311: No products were found.

Clean Air Act (CAA) 112 accidental release prevention: Propane

Clean Air Act (CAA) 112 regulated flammable substances: Propane

Clean Air Act (CAA) 112 regulated toxic substances: No products were found.