



LPG Material Safety Data Sheet

SECTION - 1

Product & Company Identification

Company Introduction	National Gas & Industrial Co. (Gasco) is a LPG Gas selling company and attains the gas from Oil Refining Companies. Liquefied petroleum gas or liquid petroleum gas (LPG or LP gas) also referred to as simply Propane or Butane, are flammable mixtures of hydrocarbon gases used as fuel in heating appliances, cooking equipment and in some countries in vehicles as well. LPG is prepared by refining petroleum or "wet" natural gas and is almost entirely derived from fossil fuel sources, being manufactured during the refining of petroleum (crude oil) or extracted from petroleum or natural gas streams as they emerge from the ground. There are varieties of LPG bought and sold which includes mixtures that are primarily Propane (C ₃ H ₈) & Butane (C ₄ H ₁₀) which are most common, other mixtures include both propane and Butane with different percentage as in winter the mixtures contain more Propane, while in summer it contains more butane.	Product Name	LPG
	Product Type	Highly Flammable Liquefied Gas (Hazmat)	
	Product Class	Class 2 – Gases Division 2.1 Flammable Gases	
	Chemical Composition	Propane (C ₃ H ₈) & Butane (C ₄ H ₁₀)	
	Product Use Description	Industrial, Domestic & Cooking Purposes	
	Placard		
	Mode Of Transportation		
	Main Supplier	Aramco	
	Main Distributor	National Gas & Industrial Co. (Gasco)	
	Distributor Address	Head office, Riyadh, Olaya, Prince Abdulaziz Bin MUSAID BIN GALAWI Street, North of King Fahd Medical City.	
Distributor Telephone	+966 (11) 4664999	Emergency Support: 920009911	
Distributor Website	www.gasco.com.sa		

SECTION - 2

Liquefied Petroleum Gas Specification

Product Composition %age of Total Value	Summer (May, June, July, Aug & Sep)	Off Season (Mar, Apr) (Oct, Nov)	Winter (Dec, Jan, Feb)	Test Method
Ethane	0.4	To Be Reported	0.8	ASTM D-2163
Propane	35.9	47.1	59.5	
Propene	1.5	0.2	0.4	
Iso Butane	10	6	6.9	
Normal Butane	51.9	46	32.4	
Iso Pentane	0.3	0.1	0	
Corrosive Compounds, Copper Strip	Max No.1b			ASTM D-1838 NGPA 2140
Hydrogen Sulfide ppm(wt)	Max 5.0			Exxon Lab Inspection Circular 200.14; UOP-212
Vapor Pressure PSI(g) Or KPa(g) At 100 °F	75-100 (517-690)	90-115 (621-793)	105-130 (724-896)	ASTM D-2598 ASTM D-1267
Specific Gravity Of Liquid At 100 °F	0.553	0.546	0.535	ASTM D-2598
Calorific Value BTU/Gallon	98039	96936	95314	
Total Sulfur ppm (wt) (ug/g)	Max. 200			ASTM D-2784 ASTM D-4045
Water Content	Free From Entrained Water			Visual Entrained Water

SECTION - 3

Physical & Chemical Data

Appearance	Colorless gas. Cold vapor cloud may be white but the lack of visible gas cloud does not indicate absence of gas. A colorless liquid when pressurized.	Lower flammability limit	1.8 % (V)
Odor	Positive, Aramco O-4 or ASTM D-6273	Upper flammability limit	8.5 % (V)
Odor threshold	Reported thresholds range from 2500 to 5000 ppm.	Vapor pressure	2,399.8 hPa at 20 °C (68 °F)
pH	Not applicable	Vapor density	2.007 at 21.1 °C (70.0 °F) (Air = 1.0)
Melting point/ freezing point	-187 °C (-305 °F)	Relative density	0.56 at 15 °C
Initial boiling point & range	-0.5 °C (31.1 °F) at 1,013.25 hPa	Solubility (H₂O)	Negligible
Flash point	< -60 °C (< -76 °F) Method: ASTM D 92	Auto ignition temperature	287 °C (549 °F)
Evaporation rate	High	Decomposition temperature	Heating may cause a fire or explosion. Material does not decompose at ambient temperatures. Carbon monoxide, carbon dioxide and non-combusted hydrocarbons (smoke) are possible hazardous decomposition products.
Flammability (solid, gas)	Gas		

Notes: This Product is typically sold as "Cooking Gas". ASTM D-4045 as modified by Saudi Aramco can also be used as an alternative method of testing. Standard Test method with-drawn from ASTM, No Replacement.

SECTION - 4**Re-activity Data**

- **Conditions to Avoid:** Keep separate from oxidizing agents. Gas explodes spontaneously when mixed with chloride dioxide.

SECTION - 5**Fire or Explosion Hazard**

- Extremely Flammable (F+).
- Readily forms and explosive air-vapour mixture at ambient temperature.
- Vapour is heavier than air and may travel to remote sources of ignition (e.g. along drainage systems, into basements etc.).
- Liquid leaks generate large volumes of flammable vapour (approximately 250:1).
- Liquid release or vapour pressure jets present a risk of serious damage to the eyes.
- Abuse involving willful inhalation of very high concentrations of vapour, even for short periods can produce unconsciousness and might prove fatal.
- Inhalation may cause irritation to the nose and throat, headache, nausea, vomiting, dizziness and drowsiness. In poorly ventilated or confined spaces, unconsciousness or asphyxiation may result.
- Use water spray to cool exposed cylinders or tanks. Do not extinguish fire unless the source of the escaping gas that is fueling the fire can be turned off.
- Fire can be extinguished with carbon dioxide and/or dry chemical (BC).
- Container metal shells require cooling with water to prevent impingement and the weakening of metal.
- If sufficient water is not available to protect the container shell from weakening, the area will be required to be evacuated.
- Remove sources of ignition and observe distance requirements for storage tanks from combustible.

SECTION - 6**First Aid Measures****Description of first aid measures**

First-aid measures after inhalation :	Remove victim to uncontaminated area wearing self-contained breathing apparatus. Keep victim warm and rested. Apply artificial respiration if breathing stopped. (Call A Doctor In Case Of Emergency)
First-aid measures after skin contact :	For exposure to liquid, immediately warm frostbite area with warm water not to exceed 105°F (41°C). Water temperature should be tolerable to normal skin. Maintain skin warming for at least 15 minutes or until normal coloring and sensations have returned to the affected area. In case of massive exposure, remove clothing while showering with warm water. Seek medical evaluation and treatment as soon as possible. Adverse effects not expected from this product.
First-aid measures after eye contact :	Immediately flush eyes thoroughly with water for at least 15 minutes. Hold the eyelids open and away from the eyeballs to ensure that all surfaces are flushed thoroughly. Get immediate medical attention.
First-aid measures after ingestion :	Ingestion is not considered a potential route of exposure.

SECTION - 7**Fire-Fighting Measures**

Extinguishing media Suitable extinguishing media	Carbon dioxide, Dry chemical, Water spray or fog.
Special hazards arising from the substance or mixture Fire hazard	Extremely Flammable Gas ; If venting or leaking gas catches fire, do not extinguish flames. Flammable vapors may spread from leak, creating an explosive reigniting hazard. Vapors can be ignited by pilot lights, other flames, smoking, sparks, heaters, electrical equipment, static discharge, or other ignition sources at locations distant from product handling point. Explosive atmospheres may linger. Before entering an area, especially a confined area, check the atmosphere with an appropriate device.
Explosion hazard	Extremely Flammable Gas. Forms explosive mixtures with air and oxidizing agents.
Advice for firefighters	Evacuate all personnel from the danger area. Use self-contained breathing apparatus (SCBA) and protective clothing. Immediately cool containers with water from maximum distance. Stop flow of gas if safe to do so, while continuing cooling water spray. Remove ignition sources if safe to do so. Remove containers from area of fire if safe to do so. On-site fire brigades must comply with OSHA 29 CFR 1910.156 and applicable standards under 29 CFR 1910 Subpart L—Fire Protection.
Protection during firefighting	Compressed gas: asphyxiate. Suffocation hazard by lack of oxygen.
Special protective equipment for fire fighters	Standard protective clothing and equipment (Self Contained Breathing Apparatus) for fire fighters.

SECTION - 8**Transportation, Handling & Storage**

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| <ul style="list-style-type: none"> ● Transport and store cylinders and tanks secured in an upright position in a ventilated space away from ignition sources (so the pressure relief valve is in contact with the vapor space of the cylinder or tank). ● Cylinders that are not in use must have the valves in the closed position and be equipped with a protective cap or guard. ● Transportation of Dangerous Goods (TDG) | <ul style="list-style-type: none"> ● Empty cylinders and tanks may contain product residue. Do not pressurize, cut, heat or weld empty containers. ● Transport, handle and store according to applicable federal and provincial codes and regulations. ● TDG Shipping Name: Liquefied Petroleum Gas |
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TDG Classification :

Flammable Gas 2.1

Notes: This Product is typically sold as "Cooking Gas". ASTM D-4045 as modified by Saudi Aramco can also be used as an alternative method of testing. Standard Test method with-drawn from ASTM, No Replacement.



LPG

INGREDIENTS	CAS NO	%	8HR OEL
LPG (liquefied petroleum gas)	68476-85-7.	-	1800 mg/m3



UN No: **1075***
 Hazchem Code: **Not Applicable**
 DG Class: **2.1**
 Subsidiary Risk: **Not Applicable**
 Packing Group: **Not Applicable**
 Poisons Schedule: **Not Applicable**



NFPA Rating:

- ▶ 0: Minimum
- ▶ 1: Low
- ▶ 2: Moderate
- ▶ 3: High
- ▶ 4: Extreme

HEALTH HAZARD INFORMATION

PRECAUTIONS FOR USE



Glasses:	Consider full face-shield.
Respirator:	Type BAX Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)
Storage and Transportation:	Store in cool, dry, protected area. Use only in well ventilated areas. Take precautionary measures against static discharges. Dispose of this material and its container at hazardous or special waste collection point. Keep out of reach of children. Keep container in a well ventilated place. Keep away from heat. Keep away from sources of ignition. No smoking.
Fire/Explosion Hazard:	HIGHLY FLAMMABLE. Vapours/gas heavier than air. Toxic smoke/fumes in a fire. Risk of explosion if heated under confinement. Use only in well ventilated areas. Take precautionary measures against static discharges. Dispose of this material and its container at hazardous or special waste collection point. In case of fire and/or explosion, DO NOT BREATHE FUMES.

PROPERTIES



Gas. Does not mix with water. Floats on water. Extremely flammable.

EMERGENCY



FIRST AID

Skin:	Wash with soap For cold burns, immerse in cold water. Wash with soap & water, apply dressing. MEDICAL ATTENTION.
Fire Fighting:	Keep containers cool. Water spray/ fog.
Spills and Disposal:	Eliminate ignition sources. Consider evacuation. Prevent from entering drains. Contain spillage by any means. Use only in well ventilated areas. Take precautionary measures against static discharges. Dispose of this material and its container at hazardous or special waste collection point. This material and its container must be disposed of in a safe way.

SAFE STORAGE WITH OTHER CLASSIFIED CHEMICALS

Explosive	Toxic	Radioactive	Oxidizing
x	x	x	x

x — Must not be stored together