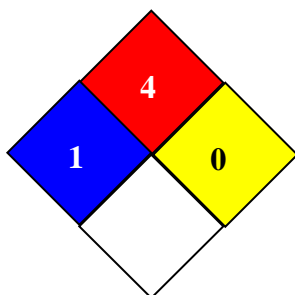




Jordan Petroleum Refinery Company LTD.
Safety and Environment Department
Material Safety Datasheet : Liquefied Petroleum Gas

NFPA Classification of Butane:

JPRC PR-01



Flammability	4
Health	1
Reactivity	0

Section 1: Product and Company Identification

Product Name : Liquefied Petroleum Gas
MSDS Number: JPRC PR-01
Company: Jordan Petroleum Refinery Company LTD.
Amman – Jordan.
TEL: + 962 6 4630151 or 4657600
FAX: + 962 6 4657934 or 4657939
P.O.BOX: 3396 Amman 11181 – Jordan
P.O.BOX: 1079 Amman 11118 – Jordan
Website: <http://www.jopetrol.com.jo>
E-mail: addeewan@jopetrol.com.jo

Section 2: Composition / Information on ingredients

Component	CAS Number	%
Propane	6-98-74	25-30
Butane	106-97-8	70-75
Ethyl Mercaptan (Odorant)	78-08-1	0-1

Section 3: Hazard Identification

Hazard statements : H220 - Extremely flammable gas.
H280 - Contains gas under pressure; may explode if heated.

Precautionary statements : P201 - Obtain special instructions before use.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280 - Wear eye protection, face protection, protective clothing, protective gloves.
P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P308+P313 - IF exposed or concerned: Get medical advice.
P381 - In case of leakage, eliminate all ignition sources.
P403 - Store in a well-ventilated place.



Section 4: First Aid Measures

- Inhalation : Provide fresh air. Put victim at rest, cover with a blanket and keep warm. Keep at rest. In case of shortness of breath, give oxygen. Get medical advice/attention.
- Skin contact : Cold burns, Treat frozen body-parts appropriately. In case of frostbite, wash with plenty of warm water; do not remove clothing. Call a physician immediately.
- Eye contact : Cold burns: Immediately flush with tepid water or with sterile saline solution. Hold eyelids apart for 15 minutes. Seek medical attention.

Most important symptoms and effects, both acute and delayed:

In high concentrations, may cause asphyxiation. Direct contact with the liquefied material or escaping compressed gas may cause frostbite injury.

Section 5: Firefighting Measures

- Specific hazards : Evacuate personnel to a safe area. Heating causes rise in pressure with risk of bursting. Use water spray or fog for cooling exposed containers. Vapors may form explosive mixture with air. Vapors are heavier than air and may spread along floors. Vapors are heavier than air and may travel considerable distance to an ignition source and flash back to source of vapors. Do not allow run-off from fire-fighting to enter drains or water courses. Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
- Suitable extinguishing media : Water spray, Alcohol resistant foam, Carbon dioxide, Dry extinguishing powder.
- Firefighting instructions : Special protective equipment for firefighters. . In case of fire: Wear self-contained breathing apparatus. Use water spray or fog for cooling exposed containers. Evacuate personnel to a safe area. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Section 6: Accidental Release Measures

Personal precautions, protective equipment and emergency procedures :

- For non-emergency personnel : Evacuate personnel to a safe area. Stay upwind/keep distance from source. Avoid contact with skin and eyes. Do not breathe vapor/aerosol. Use personal protective equipment as required.
- For emergency responders : Ensure procedures and training for emergency decontamination and disposal are in place.
- Environmental precautions : Do not allow to enter into surface water or drains.
- Methods for cleaning up : Remove all sources of ignition. Use only explosion-proof equipment. Do not smoke. Provide for sufficient ventilation, particularly in closed rooms. Stop leak if safe to do so.



Section 7: Handling and storage

- Do not smoke. Do not breathe vapor/aerosol. Avoid contact with skin and eyes. Use only explosion proof equipment. Ensure equipment is adequately earthed. Do not burn, or use
- Precautions for safe handling : a cutting torch on the empty drum. Do not pierce or burn, even after use. Do not spray on a naked flame or any incandescent material.
- Conditions for safe storage : Keep containers tightly closed in a dry, cool and well-ventilated place. Keep only in the original container. Protect from sunlight. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not store near or with any of the incompatible materials listed in section 10.

Section 8: Exposure controls / Personal protection

- Occupational exposure limit : USA - NIOSH - NIOSH REL (TWA) (mg/m³) - 1800 mg/m³
USA - NIOSH - NIOSH REL (TWA) (mg/m³) - 1000 ppm
USA – OSHA - OSHA PEL (TWA) (mg/m³) - 1800 mg/m³
USA – OSHA - OSHA PEL (TWA) (mg/m³) - 1000 ppm
- Appropriate engineering controls : Use only in area provided with appropriate exhaust ventilation.
Ensure equipment is adequately earthed.
- Personal protective equipment : The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
- Hand protection : The selection of specific gloves for a specific application and time of use in a working area, should also take into account other factors on the working space, such as (but not limited to): other chemicals that are possibly used, physical requirements (protection against cutting/drilling, skill, thermal protection), and the instructions/specification of the supplier of gloves.
- Eye protection : Safety glasses
- Body protection : Liquid. antistatic boots.
- Respiratory protection : -In case of insufficient ventilation, wear suitable respiratory equipment.
-Use self-contained respiratory apparatus for rescue and maintenance work in storage vessels.

Section 9: Physical and Chemical Properties

- Physical state : Press. Gas (Liquefied)
- Color : Colorless
- Odor : Characteristic (Mercaptan like)
- Flash point : -60 °C
- Lower and upper explosive (flammable) limits : Lower: 1.4%
Upper: 9.6%
- Water solubility : Negligible
- Density : 0.550 g/cm³ (15 °C)



Section 10: Stability and Reactivity

Chemical stability	:	Stable under normal conditions.
Reactivity	:	Hazardous polymerization does not occur.
Incompatible materials	:	Incompatible with oxidizing agents, acids, heat and ignition sources. DO NOT use natural rubber flexible hoses. Also incompatible (potentially violently) with oxygen, halogens and metal halides. Compatible with most common metals.
Conditions to avoid	:	Avoid heat, sparks, open flames and other ignition sources

Section 11: Toxicological information

Acute toxicity	:	No known toxicological effects from this product. Based on available data, the classification criteria are not met.
Skin	:	Not classified as a skin irritant. Contact with the liquefied material or escaping compressed gas may cause frostbite injury.
Eyes	:	Not classified as an irritant to the eyes. Contact with the liquefied material or escaping compressed gas may cause frostbite injury.
STOT – single exposure	:	Asphyxiant. Effects are proportional to oxygen displacement. Over exposure may result in dizziness, drowsiness, weakness, fatigue, breathing difficulties and unconsciousness.

Section 12: Ecological information

Biodegradability	:	No data available
Mobility in Soil	:	Moderate to low mobility.
Ecotoxicity	:	No data available

Section 13: Disposal Considerations

Dispose of contaminated materials in accordance with current regulations. Do not burn, or use a cutting torch on the empty drum. Do not pierce or burn, even after use. Do not spray on a naked flame or any incandescent material.

Section 14: Transport information

Transport of this product is carried out in compliance with local legislation, taking into account safety and environmental precautions.



Section 15: Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture :

- EU-Regulations
- Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013.
- Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations 2000



Section 16: Other information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Prepared by : Safety and Environment Department

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