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		Revision edition: 0
LIQUEFIED PETROLEUM GAS (LPG)		Date: 9/21/2012
		Supersedes: N/A
		SDS-0019



2.1: Flammable Gas



DANGER

1 Identification of the substance/mixture and of the company/undertaking

Product identifier

Trade name: Liquefied petroleum gas (LPG)
SDS Nr: SDS-0019
Chemical description: Liquefied petroleum gas (LPG)
CAS No: 68512-94-4
EC No: 270-990-9
Index No: 649-003-00-1
Chemical formula: C₃H₈ (Propane) and C₄ H₁₀ (Butane)
Registration-No: Registration deadline not expired.
Use: Used in industrial petrochemical processes, as a refrigerated, and as fuel.

Company identification: Freepoint Commodities, LLC
 58 Commerce Road
 Stamford, Ct. 06902

E-Mail address (competent person): Lou Santore [Lou Santore \[LSantore@freepoint.com\]](mailto:LSantore@freepoint.com)

Emergency telephone number: Within the U.S. or Canada: 1 800 424 9300
 Outside the U.S. and Canada: +1 703 527 3887 (collect calls accepted)

MSDS prepared by: Paule Patterson, ENERCON Services, Inc.

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2 Hazards identification

Classification of the substance or mixture

Hazard Class and Category Code

Regulation EC 1272/2008 (CLP)

- **Physical hazards:** Flammable gases - Category 1 - Danger (H220)
Gases under pressure - Liquefied gas - Warning (H280)
- Classification EC 67/548:** F+; R12

Label elements

Labelling Regulation EC 1272/2008 (CLP)

• Hazard pictograms



- **Hazard pictograms code:** GHS02 - GHS04
 - **Signal word:** Danger
 - **Hazard statements:** H220: Extremely flammable gas.
H280: Contains gas under pressure; may explode if heated.
 - **Precautionary statements**
 - **Prevention:** P102: Keep out of reach of children.
P210: Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
 - **Response:** P377: Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381: Eliminate all ignition sources if safe to do so.
- If inhaled: Remove person to fresh air and keep comfortable for breathing.
Call a poison center, doctor or emergency medical clinic if you feel unwell.
- **Storage:** P403: Store in a well-ventilated place.
P410: Protect from sunlight.

Labeling EC 67/548 or EC 1999/45

Symbol(s)

: F+ : Extremely flammable



- R Phrase(s):** R12: Extremely flammable.
- S Phrase(s):** S9: Keep container in a well-ventilated place.
S16: Keep away from sources of ignition - No smoking.

Other hazards

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Other hazards: LPG is extremely flammable liquefied hydrocarbon compound which at ambient temperature may form explosive hydrocarbon mixtures with air.
If inhaled, LPG hydrocarbons have narcotic effect leading to nervous system and heart disorders; irritating to respiratory tract and eyes. Inhalation of large gas concentrations may lead to unconsciousness or suffocation in the short run due to oxygen deficiency. After contact with skin or eyes liquefied gas may cause frostbite due to intensive evaporation.
Formation of toxic compounds with other materials in water and air at ambient temperatures is not characteristic to LPG.
Accidental release may produce short-term soil, water and atmosphere contamination and significant reduction of oxygen concentration in ambient air, especially in a confined spaces.

3 Composition/information on ingredients

Substance / Preparation: Substance.

Substance name Contents	CAS No	EC No Index	No Registration no Classification
Liquefied Petroleum Gas:	100 % 68512-94-4	270-990-9	649-003-00-1NOTE 2 F+; R12

Chemical composition

Liquefied petroleum gas, mixture of C3 hydrocarbons containing small amounts of C2, C4. LPG contains less than 0,1 % mass of 1,3-butadiene.

Flam. Gas 1 (H220)

Flam. Gas 1 (H220)

Liq. Gas (H280)

Contains no other components or impurities which will influence the classification of the product.

Note 1: Listed in Annex IV / V REACH, exempted from registration.

Note 2: Registration deadline not expired.

Full text of R-phrases see chapter 16

4 First aid measures

First aid measures

- **Inhalation:** Exposure to concentrations above 100% of the LEL such as 5% or 50,000 ppm may sensitize heart and cause irregular heartbeat. High concentrations may exclude oxygen and cause dizziness and suffocation. Contact with liquid or cold vapor may cause frostbite or freeze burn.

Exposure to concentrations above 10% of the LEL may cause a general central nervous system (CNS) depression typical of anesthetic gases or intoxicants. Aliphatic hydrocarbon gases may build up in confined spaces and may cause dizziness, light-headedness, headache, nausea and loss of coordination. Continued inhalation may result in narcosis, unconsciousness, and possibly lead to death.

Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.

- **Skin/eye contact:** For exposure to liquid, immediately warm frostbite area with warm water not to exceed 105°F (41°C) - flush with water for at least 15 minutes.
In case of massive exposure, remove contaminated clothing while showering with warm water. Obtain medical attention.

- **Eye contact:** Immediately flush eyes thoroughly with warm water for at least 15 minutes.

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Remove contact lenses. Hold the eyelids open and away from the eyeballs to ensure that all surfaces are flushed thoroughly.

Seek medical attention immediately.

- **Ingestion:** Ingestion is not considered a potential route of exposure. If accidentally swallowed obtain immediate medical attention.

Notes to physician: Symptoms: Dizziness, Headache, Nausea, Frostbite, Vomiting, Discomfort Hazards: This material may be a cardiac sensitizer; avoid the use of epinephrine.

Treatment: Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

5 Fire-fighting measures

Specific hazards: Exposure to fire may cause containers to rupture/explode.

Hazardous combustion products: Incomplete combustion may form carbon monoxide.

Extinguishing media

- **Suitable extinguishing media:** All known extinguishing agents may be used.

Specific methods: If possible, stop flow of product.

Move away from the container and cool with water from a protected position.

Do not extinguish a leaking gas flame unless absolutely necessary. Spontaneous/explosive re-ignition may occur. Extinguish any other fire.

Specific hazards during fire fighting: Flammable Gas. Vapors are heavier than air and may travel long distances to a point of ignition and flash back.

Special protective equipment for fire fighters: In confined space use self-contained breathing apparatus and full protective clothing as need for protection from heat and airborne combustion products.

Use water to cool equipment, surfaces and containers exposed to fire and excessive heat.

For large fire the use of unmanned hose holders or monitor nozzles may be advantageous to further minimize personnel exposure.

Further information: Allow the fire to burn under controlled conditions. Fire should not be extinguished unless flow of gas can be immediately stopped. Stop leak if you can do it without risk.

Evacuate area. If a leak or spill has not ignited, use water spray to disperse the vapors and to protect personnel attempting to stop a leak.

Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Use water to cool equipment, surfaces and containers exposed to fire and excessive heat. For large fire the use of unmanned hose holders or monitor nozzles may be advantageous to further minimize personnel exposure.

6 Accidental release measures

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Personal precautions: Wear self-contained breathing apparatus when entering area unless atmosphere is verified safe.

Evacuate area.

Ensure adequate air ventilation.

Eliminate ignition sources.

Emergency eye wash capability should be available in the vicinity of any potential splash exposure.

Use good personal hygiene practices.

Avoid repeated and/or prolonged skin exposure. Wash hands before eating, drinking, smoking, or using toilet facilities.

Do not use as a cleaning solvent or harsh abrasive skin cleaners for washing this product from exposed skin areas.

Waterless hand cleaners are effective.

Promptly remove contaminated clothing and launder before reuse. Consider disposal of contaminated clothing rather than laundering to prevent the formation of flammable vapors which could ignite via washer or dryer.

Environmental precautions: Try to stop release.

Prevent entry into waterways, sewers, basements, confined areas, work pits, or any place where its accumulation can be dangerous.

Clean up methods: The product evaporates readily.

Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area).

CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning.

Allow liquid to evaporate from the surface.

All equipment used when handling the product must be grounded.

Do not direct water at spill or source of leak.

Do not touch or walk through spilled material.

If possible, turn leaking containers so that gas escapes rather than liquid. Isolate area until gas has dispersed.

Prevent spreading of vapors through sewers, ventilation systems and confined areas. Use water spray to reduce vapors or divert vapor cloud drift.

Avoid allowing water runoff to contact spilled material.

Water Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area).

Allow liquid to evaporate from the surface.

7 Handling and storage

Handling: Take precautionary measures against static discharge.

Suck back of water into the container must be prevented.

Purge air from system before introducing gas.

Do not allow back feed into the container.

Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt.

Keep away from ignition sources (including static discharges).

Refer to supplier's container handling instructions.

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Storage: Segregate from oxidant gases and other oxidants in store.
Keep container below 50°C in a well ventilated place.

8 Exposure controls/personal protection

Personal protection: Ensure adequate ventilation.
Do not smoke while handling product.

Occupational Exposure Limits:

ACGIH:	1000 ppm TWA (listed under Aliphatic hydrocarbon gases: Alkane C1-4)
OSHA:	1000 ppm TWA; 1800 mg/m ³ TWA
NIOSH:	1000 ppm TWA; 1800 mg/m ³ TWA

9 Physical and chemical properties

Physical state at 20 °C: Gas.
Colour : Colourless gas.
Odour : Rotten egg odor. Poor warning properties at low concentrations. Olfactory identifier often added.
Molecular weight: 44.1
Melting point [°C]: N/A
Boiling point [°C]: 0 (-32 °F) – Butane, -42 (-44 °F) – Propane
Critical temperature [°C]: -82.7 (116.9°F)
Vapour pressure [0°C]: 40 – Butane, 388 - Propane
Relative density, gas (air=1): 0.5 - 0.6
Relative density, liquid (water=1): Not available.
Solubility in water [mg/l]: Insoluble
Flammability range [vol% in air]: 1.5–9.0% - Butane, 2.2–9.5% - Butane
Auto-ignition temperature [°C]: 430 (806°F) – Butane, 468 (874.4F) Propane
Other data: Gas/vapor heavier than air. May accumulate in confined spaces, low lying areas, and work pits.

10 Stability and reactivity

Hazardous decomposition products: Thermal decomposition or burning may produce smoke and CO/CO₂. At temperatures exceeding 1292°F (700°C) and in the absence of oxygen or air, methane may decompose to form hydrogen.

Incompatible materials: Oxidizing agents. Mixtures with bromine pentafluoride, chlorine, and yellow mercuric oxide, nitrogen trifluoride, liquid oxygen, or oxygen difluoride may explode. Oxygen. nickel tetracarbonyl, tetracarbonylnickel. butane.

Can form explosive mixture with air.

Conditions to avoid : Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

11 Toxicological information

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Acute toxicity : No known toxicological effects from this product.

12 Ecological information

Ecological effects information: No known ecological damage caused by this product.

13 Disposal considerations

General: Do not discharge into areas where there is a risk of forming an explosive mixture with air.
Waste gas should be flared through a suitable burner with flash back arrestor.
Do not discharge into any place where its accumulation could be dangerous.
Contact supplier if guidance is required.

14 Transport information

UN number 1075



• Labeling ADR, IMDG, IATA

: 2.1: flammable gas.

Land transport

ADR/RID

H.I. nr: 23

UN proper shipping name: LIQUEFID PETROLEUM GAS (LPG)

Transport hazard class(es): 2

- **ADR/RID Classification code:** 2 F

- **Packing Instruction(s) - General:** P200

- **Tunnel Restriction:** B/D Tank carriage: Passage forbidden through tunnels of category B, C, D and E;



Orange Plate Labeling:

Other carriage: Passage forbidden through tunnels of category B and D

Sea transport

- **IMO-IMDG code**

• **Proper shipping name:** LIQUEFID PETROLEUM GAS (LPG)

• **Class:** 2.1

- **IMO Packing group:** P200

- **Emergency Schedule (EmS) - Fire:** F-D

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- Emergency Schedule (EmS) - : S-U

Spillage

- Instructions - Packing: P200

Air transport

- ICAO/IATA

- Proper shipping name: LIQUEFID PETROLEUM GAS (LPG)

• Class: 2.1

• Passenger and Cargo Aircraft:

• Cargo Aircraft only:

- Packing instruction: 200

Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency.

Before transporting product containers:

- Ensure that containers are firmly secured.
- Ensure cylinder valve is closed and not leaking.
- Ensure valve outlet cap nut or plug (where provided) is correctly fitted.
- Ensure valve protection device (where provided) is correctly fitted.
- Ensure there is adequate ventilation.
- Compliance with applicable regulations.

15 Regulatory information

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

: Ensure all national / local regulations are observed.

16 Other information

Ensure operators understand the flammability hazard.

The hazard of asphyxiation is often overlooked and must be stressed during operator training.

List of full text of R-phrases in section 3 R12: Extremely flammable.

This Safety Data Sheet has been established in accordance with the applicable United State and European Directives and applies to all countries that have translated the Directives in their national laws.

DISCLAIMER OF LIABILITY: Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out.

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