

SAFETY DATA SHEET

Product Name: **LIQUEFIED PETROLEUM GAS**

Revision Date: 10 July 2022
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SECTION 1

IDENTIFICATION OF THE HAZARDOUS CHEMICAL AND OF THE SUPPLIER

As of the revision date above, this SDS meets the regulations in Malaysia.

PRODUCT

Product Name: LIQUEFIED PETROLEUM GAS
Product Description: Liquefied Hydrocarbon Gas, Gas or Liquefied Gas
Product Code: 249813-88
Intended Use: Fuel for household and industrial applications

Trade Names

LPG BF LPG MY

COMPANY IDENTIFICATION

Supplier: Sim Teong Huat Sdn Bhd
No 2, Jalan Wawasan 1A,
Kawasan Industri Sungai Kapar Indah,
42200, Klang Selangor

Emergency contacts: +603-3291 9168 (Office)
+6012-666 8526 (24 Hour)

SECTION 2

HAZARDS IDENTIFICATION

GHS CLASSIFICATION

Flammable gases, Category 1
Gases under pressure (Liquefied gas)

GHS Label Elements

Hazard Pictogram(s)



Signal Word

Danger

Hazard Statements

H220 Extremely flammable gas
H280 Contains gas under pressure; may explode if heated

PRECAUTIONARY STATEMENTS

Prevention Precautionary Statements

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking

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Response Precautionary Statements

P377 Leaking gas fire: Do not extinguish, unless leak can be stopped safely
P381 Eliminate all ignition sources if safe to do so

Storage Precautionary Statements

P403 Store in a well-ventilated place
P410 + P403 Protect from sunlight. Store in a well ventilated place

Disposal Precautionary Statements

No precautionary statement

SECTION 3	COMPOSITION AND INFORMATION OF THE INGREDIENTS OF THE HAZARDOUS CHEMICAL
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Reportable Hazardous Substance(s) or Complex Substance(s)

Composition	CAS#	Concentration*
LIQUEFIED PETROLEUM GAS	68476-85-7	100 %

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Reportable Hazardous Constituent(s) Contained in Complex Substance(s)

Composition	CAS#	Concentration*
1,3-BUTADIENE	106-99-0	< 0.1%

SECTION 4	FIRST AID MEASURES
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INHALATION

Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

SKIN CONTACT

If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

Not Applicable

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SECTION 5

FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish flames.

Inappropriate Extinguishing Media: Straight streams of water

FIREFIGHTING

Fire Fighting Instructions: Allow the fire to burn under controlled conditions. Stop leak if you can do so 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 run-off from fire control or dilution from entering streams, sewers or drinking water supply. Fire-fighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Extremely Flammable Gas. Contains hazardous material. Firefighters should consider protective equipment indicated in Section 9..

Hazardous Combustion Products: Incomplete combustion products, oxides of carbon

FLAMMABILITY PROPERTIES

Flash Point, Closed cup: -104 to -60.0°C

Flammable Limits

(Approximate volume % in air): LEL: 2.0 UEL: 9.5

Auto-ignition Temperature: > 250°C (482°F)

SECTION 6

ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES In the event of accidental release, notify relevant authorities in accordance with all applicable regulations.

PROTECTIVE MEASURES Warn or evacuate occupants in surrounding and downwind areas if required, due to flammability of the material. See Section 5 for fire-fighting information. See the Hazard Identification Section for Significant Hazards. See Section 5 for First Aid Advice. See Section 8 for Personal Protective Equipment.

SPILL MANAGEMENT

Land Spill: Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do so without risk. CAUTION:

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

Water Spill:

Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not confine in area of spill. Allow liquid to evaporate from the surface. See Land Spill section of the SDS for advice on gases.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; However, geographic conditions, wind, temperature, (and in the case of a water spill) wave, and current direction, and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted.

Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7

HANDLING AND STORAGE

HANDLING

Avoid all personal contact. Prevent exposure to ignition sources, for example use non-sparking tools and explosion-proof equipment. Do not enter storage areas or confined spaces unless adequately ventilated. Use proper bonding and/or earthing procedures. However, bonding and earthing may not eliminate the hazard from static accumulation. Material can accumulate static charges which may cause an electrical spark (ignition source).

Static Accumulator:

This material is a static accumulator.

STORAGE

Ample fire water supply should be available. A fixed sprinkler/deluge system is recommended. The container choice, for example storage vessel, may effect static accumulation and dissipation. Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Outside or detached storage preferred. Storage containers should be earthed and bonded.

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SECTION 8

EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additives)

Substance Name	Limit/Standard		Note	Source	Year
LIQUEFIED PETROLEUM GAS	PEL	1,800 mg/m ³	1,000 ppm	Malaysia PEL	2000
LIQUEFIED PETROLEUM GAS	TWA		1,000 ppm	ACGIH	2013
1,3-BUTADIENE	PEL	4.4 mg/m ³	2 ppm	Malaysia PEL	2000
1,3-BUTADIENE	TWA		2 ppm	ACGIH	2013

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider: Use explosion-proof ventilation equipment to stay below exposure limits.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection:

If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include: No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use approved supplied-air oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filters capacity/rating may be exceeded.

Hand Protection:

Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include: Thermally protective, chemical resistant gloves are recommended.

Chemical resistant gloves are recommended. If contact with forearms is likely wear gauntlet style gloves. Nitrile, Viton

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Eye Protection: If contact is likely, safety glasses with side shields are recommended

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include: Thermally protective and chemical resistant apron and long sleeves are recommended when volume of material is significant.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS See Sections 6, 7, 12, 13

SECTION 9

PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State:	Liquefied Gas
Color:	Colorless
Odor:	Odorless (may be odorized)
Odor Threshold:	N/A

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 15⁰C):	0.5300 - 0.5800 kg/L
Flash Point, Closed cup:	-104 to -60.0°C
Flammable Limits	
(Approx. volume % in air):	LEL: 2.0 UEL: 9.5
Auto-ignition Temperature:	>250°C (482°F)
Boiling Point / Range:	<0 °C (32 °F) [Estimated]
Vapor Density (Air = 1):	0.70 @ 101 kPa - 1.1 at 101 kPa
Vapor Pressure:	> 133 kPa (1000 mm Hg) at 20°C [Estimated]
Evaporation Rate	
(n-butyl acetate = 1):	N/D
pH:	N/A
Log Pow	
(n-Octanol/Water Partition Coeff.):	N/A
Solubility in Water:	Negligible
Viscosity:	N/A

OTHER INFORMATION

Freezing Point:	N/A
Melting Point:	N/A

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SECTION 10

STABILITY AND REACTIVITY

STABILITY:	Material is stable under normal conditions.
CONDITIONS TO AVOID:	Avoid heat, sparks, open flames and other ignition sources.
MATERIALS TO AVOID:	Strong oxidizers
HAZARDOUS DECOMPOSITION PRODUCTS:	Material does not decompose at ambient temperatures.
HAZARDOUS POLYMERIZATION:	Will not occur.

SECTION 11

TOXICOLOGICAL INFORMATION

Acute Toxicity

LPG (68476-85-7) Samples of petroleum gases have been tested in acute inhalation studies. Results indicate the following: Rat inhalation LC50> 20 mg/l. (Clark, D.G. and Tinston, D.J.,1982)

Skin corrosion/ irritation

LPG (68476-85-7) Petroleum gases are highly flammable at room temperature. No studies have been conducted on skin corrosion/irritation. There are no indications from the published literature that petroleum gases cause skin corrosion/ irritation.

Serious eye damage/ eye irritation

LPG (68476-85-7) Petroleum gases are highly flammable at room temperature. No studies have been conducted to assess eye irritation. There are no indications from the published literature that petroleum gases cause eye damage or irritation.

Respiratory sensitization

LPG (68476-85-7) Petroleum gases are highly flammable at room temperature. No studies have been conducted on respiratory or skin sensitization.

Skin sensitization

LPG (68476-85-7) Petroleum gases are highly flammable at room temperature. No studies have been conducted on respiratory or skin sensitization. There are no indications from the published literature that petroleum gases cause skin sensitization.

Germ cell mutagenicity

LPG (68476-85-7) The mutagenic potential of petroleum gases has been extensively studied in a range of in vivo and in vitro assays. These studies showed no evidence of mutagenic activity. Some C4 petroleum gases may contain 1,3-butadiene, a constituent that is classified as a germ cell mutagen. (NTP, 1993; Kirwin CJ et al., 1980; NTP, 2005; Safepharm Laboratories, 2008; API, 2010).

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Carcinogenicity

LPG (68476-85-7) There are no carcinogenicity studies available for any of the C1-C4 alkane gases which comprise the petroleum gases category. Based on weight of evidence, taking into account evidence from subchronic tests, consideration of their chemical structures (which show no alerts for carcinogenic activity), together with evidence that C1-C4 alkanes are not genotoxic, it is concluded that these gases are unlikely to show carcinogenic activity. Some C4 petroleum gases may contain 1,3-butadiene, a constituent that is classified as a human carcinogen.

Reproductive toxicity

LPG (68476-85-7) The weight of evidence from studies on petroleum gases indicates no evidence of reproductive or developmental toxicity. (Hoffman, G.M., 2008; Hoffman, G.M., 2010a,b,c,d; API, 2010).

Specific target organ toxicity – Single exposure

LPG (68476-85-7) Acute exposure studies show no evidence of systemic toxicity, other than a potential to cause narcosis / CNS depression at higher exposure concentrations. (Clark, D.G. and Tinston, D.J., 1982).

Specific target organ toxicity – Repeated exposure

LPG (68476-85-7) The repeat dose toxicity of petroleum gases has been studied in rats and humans, following repeated inhalation exposure for periods up to 13 weeks. No significant exposure-related target organ toxicity has been observed. (Hoffman, G.M., 2008; Hoffman, G.M., 2010a,b,d; API, 2010; Stewart RD et al., 1977; Stewart RD et al., 1978).

Aspiration hazard

LPG (68476-85-7) Not relevant – petroleum gases are not liquids at ambient temperatures

Additional information is available by request.

SECTION 12

ECOLOGICAL INFORMATION

General Product Information

Acute (short-term) Aquatic Hazard

No experimental data are available on the short-term aquatic toxicity of petroleum gas category members. Due to the high volatility of the petroleum gases, effects on aquatic species are not expected

Chronic (long-term) Aquatic Hazard

No experimental data are available on the chronic aquatic toxicity of petroleum gas category members. Due to the high volatility of the petroleum gases, effects on aquatic species are not expected

Persistence/Degradability

Petroleum gases partition predominantly to the atmosphere and so experimental

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data for their biodegradation are not appropriate. In the absence of experimental data the potential biodegradation rates in water of representative members of the category were estimated using QSAR calculations. These estimates predict that the members of the category are readily biodegradable.

Bioaccumulation

Petroleum gases have a low potential for bioaccumulation with log Kow values <4

Mobility in Soil

No information available

SECTION 13

DISPOSAL INFORMATION

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products

Empty Container Warning

Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. Do not pressurize, cut, weld, solder, drill, grind, or expose such containers to heat, flame, static electricity, or other sources of ignition. They may explode and cause injury or death.

SECTION 14

TRANSPORT INFORMATION

LAND

Proper Shipping Name:	PETROLEUM GASES, LIQUEFIED
Hazard Class:	2
Hazchem Code:	2YE
UN Number:	1075
Packing Group:	(N/A)
Label(s) / Mark(s):	2.1

SEA (IMDG)

Proper Shipping Name:	PETROLEUM GASES, LIQUEFIED
Hazard Class & Division:	2.1
EMS Number:	F-D, S-U
UN Number:	1075
Packing Group:	(N/A)

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Label(s): 2.1
Transport Document Name: UN1075, PETROLEUM GASES, LIQUEFIED, 2.1, (0°C c.c.)

AIR (IATA)

Proper Shipping Name: PETROLEUM GASES, LIQUEFIED
Hazard Class & Division: 2.1
UN Number: 1075
Packing Group: (N/A)
Label(s) / Mark(s): 2.1
Transportation Limitations: CARGO AIRCRAFT ONLY
Transport Document Name: UN1075, PETROLEUM GASES, LIQUEFIED, 2.1

Label Flammable Gas

SECTION 15

REGULATORY INFORMATION

Material is hazardous chemical under:

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

REGULATORY STATUS AND APPLICABLE LAWS AND REGULATIONS

Complies with the following national/regional chemical inventory requirements:

AICS, KECI, PICCS, EINECS, TSCA, DSL, ENCS

SECTION 16

OTHER INFORMATION

References used to develop this SDS:

CONCAWE – The oil companies' European organization for Environment, Health and Safety
ICOP CCHC 2014 – Industry Code of Practice on Chemicals Classification and Hazard Communication 2014

N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS: 4

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