

Liquefied Petroleum Gas – Commercial Propane



Safety Data Sheet



according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830
Issue date: 04/2020 Version: 2.0

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

1.1. Product identifier

Product form:	Substance
Trade name:	LIQUEFIED PETROLEUM GAS – COMMERCIAL PROPANE
Chemical name:	Butane
EC-No.:	270-704-2
CAS No.:	68476-85-7
Product group:	Fuel

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Industrial/Professional use spec:	Industrial For professional use only
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Use of the substance/mixture: Flogas Liquefied Propane Gas is a multi purpose product intended for uses including: fuels for equipment which has been specifically designed to run on commercial propane; internal combustion engine fuel; feedstock for the petrochemical industry.

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Supplier

Flogas Britain Ltd.
Rayns Way, Watermead Business Park, P.O. Box Syston, Leicestershire, LE7 1PF - United Kingdom
T: 0116 264 9000
enquiries@flogas.co.uk

1.4. Emergency telephone number

Emergency number: 03457 200 100

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flammable gases, Category 1A	H220
Gases under pressure : Compressed gas	H280
Full text of H statements:	see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP):



GHS02

Signal word (CLP):

Danger

Hazard statements (CLP):

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

Precautionary statements (CLP):

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381 - In case of leakage, eliminate all ignition sources.
P410 + P403 - Protect from sunlight. Store in a well ventilated place.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Name: LIQUEFIED PETROLEUM GAS – COMMERCIAL PROPANE

CAS-No. : 68476-85-7

EC-No. : 270-704-2

Name	Product identifier	%
Petroleum gases, liquefied	(CAS-No.) 68476-85-7 (EC-No.) 270-704-2 (EC Index-No.) 649-202-00-6 (REACH-no) Not available	100
1,3-Butadiene	(CAS-No.) 106-99-0 (EC-No.) 203-450-8 (EC Index-No.) 601-013-00-X	< 0.1

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First aid measures general:

Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First aid measures after inhalation:

Allow affected person to breathe fresh air. Allow the victim to rest. If unconscious, place in the recovery position and seek medical advice. If breathing stops, give artificial respiration. If necessary, give external cardiac massage and obtain medical assistance.

First aid measures after skin contact: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Contact with the product may cause cold burns or frostbite. Hold the burned area under cold running water for at least five minutes, or until the pain subsides. Obtain immediate emergency medical attention if burn is deep or extensive.

First aid measures after eye contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if pain, blinking or redness persists.

First aid measures after ingestion: This product is a gas at normal temperature and pressure. Unlikely route of exposure. If swallowed, obtain emergency medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation: Symptoms of overexposure are dizziness, headache, tiredness, nausea, unconsciousness, breathing arrest.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media: Foam. Dry powder. Carbon dioxide. Sand. Cool closed containers exposed to fire with water spray. Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Move containers from fire area if it can be done without personal risk. Use caution when applying carbon dioxide in confined spaces. Carbon dioxide can displace oxygen.

Unsuitable extinguishing media: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard: Leaks/ruptures in high pressure system can create a fire hazard when in the vicinity of ignition sources (eg. open flame, pilot lights, sparks, or electric arcs). Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.

Explosion hazard: Contains gas under pressure; may explode if heated.

Reactivity in case of fire: On heating: release of highly flammable gases/vapours.

Hazardous decomposition products in case of fire: On combustion, forms: carbon oxides (CO and CO₂).

5.3. Advice for firefighters

Precautionary measures fire: Appropriate self contained breathing apparatus may be required. Carbon dioxide and inert gas can displace oxygen. This material is combustible and can be ignited by heat, sparks, flames, or other sources of ignition (e.g. static electricity, pilot lights, or mechanical/electrical equipment).

Firefighting instructions: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire.

Protective equipment for firefighters: Do not enter fire area without proper protective equipment, including respiratory protection.

Other information: Cool adjacent tanks / containers / drums with water jet. Exposure to fire may cause containers to rupture/explode.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment:	Ensure adequate ventilation. In case of fire: Wear self contained breathing apparatus.
Emergency procedures:	Evacuate unnecessary personnel. Avoid ignition sources.

6.1.2. For emergency responders

Protective equipment:	Equip clean-up crew with proper protection.
Emergency procedures:	Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up:	Store away from other materials. Large spills or punctures should be well ventilated. Air movement to dilute leaking gases is essential. Do not use products that can generate sparks. Risk of explosion. Fire hazard. Do not use plastic materials for cleaning up.
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6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling:	Provide good ventilation in process area to prevent formation of vapour. Avoid any leak and work in fully closed specially engineered systems. Avoid ignition sources. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Contains gas under pressure; may explode if heated. Only experienced and properly instructed persons should handle gases under pressure. Do not handle until all safety precautions have been read and understood. Empty containers should be taken for recycling, recovery or waste in accordance with local regulation. Pressurised container. Protect from sunlight and do not expose to temperatures exceeding 50°C.
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7.2. Conditions for safe storage, including any incompatibilities

Technical measures:	Keep container tightly closed. Store in tightly closed, leak-proof containers.
Storage conditions:	Keep only in the original container in a cool, well ventilated place away from: Heat sources, Ignition sources. Keep container closed when not in use.
Incompatible products:	Strong bases. Strong acids.
Incompatible materials:	Sources of ignition. Direct sunlight.
Storage area:	Store in a well ventilated place.

7.3. Specific end use(s)

Refer to section 1.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Petroleum gases, liquefied (68476-85-7)

United Kingdom - Occupational Exposure Limits

Local name	LIQUEFIED PETROLEUM GAS (LPG)
WEL TWA (mg/m ³)	1750 mg/m ³
WEL TWA (ppm)	WEL TWA (ppm)
WEL STEL (mg/m ³)	2180 mg/m ³
WEL STEL (ppm)	1250 ppm

1,3 Butadiene (106-99-0)

United Kingdom - Occupational Exposure Limits

Local name	Buta1,3-diene
WEL TWA (mg/m ³)	2.2 mg/m ³
WEL TWA (ppm)	1 ppm
WEL STEL (mg/m ³)	66 mg/m ³ (calculated)
WEL STEL (ppm)	30 ppm (calculated)
Remark (WEL)	Carc (Capable of causing cancer and/or heritable genetic damage)
WEL chemical category	Capable of causing cancer and/or heritable genetic damage
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE

8.2. Exposure controls

Appropriate engineering controls:

Local exhaust and general room ventilation are both essential to prevent accumulation of flammable vapour. Proper grounding procedures to avoid static electricity should be followed.

Personal protective equipment:

Avoid all unnecessary exposure. In case of repeated or prolonged contact (industrial environment), wear personal protective equipments.

Hand protection:

It is a good industrial hygiene practice to minimize skin contact. Neoprene gloves are recommended with breakthrough time of approx. 25 minutes according to EN 374 (0.1 mm thickness); changing gloves after 20 minutes is recommended. Use heat protective gloves when handling product at elevated temperatures.

Eye protection:

Avoid contact with eyes. Wear approved safety goggles. Chemical goggles should be consistent with EN166 or equivalent. Chemical goggles or face shield with safety glasses.

Skin and body protection:

If repeated skin contact or contamination of clothing is likely (industrial environment), protective clothing should be worn. Chemical resistant protective apron / clothing (tested to EN 14605 or equivalent).

Respiratory protection:

Wear appropriate mask. If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn. Protective respiration apparatus not using surrounding air (breathing apparatus) (DIN EN 133). Self contained breathing apparatus (SCBA) or positive pressure airline with mask are to be used in oxygen deficient atmospheres.

Personal protective equipment symbol(s):



Other information:

Do not eat, drink or smoke during use.

SECTION 9 : Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Gas
Appearance:	Colourless gas or liquefied gas
Colour:	Colourless
Odour:	Odourless
Odour threshold:	Not determined for this product
pH:	Not determined for this product
Relative evaporation rate (butylacetate=1):	Not determined for this product
Melting point:	No data available
Freezing point:	Not determined for this product
Boiling point:	-42 °C
Flash point:	-104 °C
Auto ignition temperature:	460 – 580 °C
Decomposition temperature:	Not determined for this product
Flammability (solid, gas):	2% to 11% in air Extremely flammable gas
Vapour pressure:	7.5 bar at 15 °C
Relative vapour density at 20 °C:	Not determined for this product
Relative density:	0.512 at 15 °C
Relative gas density:	1.5 at 15 °C (Air = 1.0)
Solubility:	Not determined for this product
Partition coefficient n-octanol/water (Log Pow):	Not determined for this product
Viscosity, kinematic:	Not determined for this product
Viscosity, dynamic:	Not determined for this product
Explosive properties:	Not determined for this product
Oxidising properties:	Not determined for this product
Explosive limits:	Not determined for this product

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known under normal conditions of use.

10.2. Chemical stability

Stable in use and storage conditions as recommended in item 7.

10.3. Possibility of hazardous reactions

No hazardous reactions if stored and handled as prescribed/indicated. May react violently with oxidants.

10.4. Conditions to avoid

Remove all sources of ignition. Extremely high temperatures. Avoid storage at temperatures above 50°C.

10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition products

Carbon monoxide. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral):	Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (dermal):	Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation):	Not classified (Based on available data, the classification criteria are not met)

1,3 Butadiene (106-99-0)

LD50 oral rat	5480 mg/kg
LC50 inhalation rat (mg/l)	285 g/m ³ (Exposure time: 4 h)

Skin corrosion/irritation: Not classified
pH: Not determined for this product

Additional information: Based on available data, the classification criteria are not met

Serious eye damage/irritation: Not classified
pH: Not determined for this product

Additional information: Based on available data, the classification criteria are not met

Respiratory or skin sensitisation: Not classified

Additional information: Based on available data, the classification criteria are not met

Germ cell mutagenicity: Not classified

Additional information: Based on available data, the classification criteria are not met

Carcinogenicity: Not classified

Additional information: Based on available data, the classification criteria are not met

1,3 Butadiene (106-99-0)

IARC group	1 - Carcinogenic to humans
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Reproductive toxicity: Not classified

Additional information: Based on available data, the classification criteria are not met

STOT-single exposure: Not classified

Additional information: Based on available data, the classification criteria are not met

STOT-repeated exposure: Not classified

Additional information: Based on available data, the classification criteria are not met

Aspiration hazard: Not classified

Additional information: Based on available data, the classification criteria are not met

Potential Adverse human health effects and symptoms: Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short term (acute): Not classified

Hazardous to the aquatic environment, long term (chronic): Not classified

12.2. Persistence and degradability

LIQUEFIED PETROLEUM GAS COMMERCIAL PROPANE (68476-85-7)

Persistence and degradability	Not established.
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12.3. Bioaccumulative potential

LIQUEFIED PETROLEUM GAS COMMERCIAL PROPANE (68476-8-7)

Bioaccumulative potential Not established.

1,3 Butadiene (106-99-0)

BCF fish 1 13 – 19.1

Partition coefficient n-octanol/water (Log Pow) 1.85 (at 23 °C)

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

Additional information: Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations:






Dispose in a safe manner in accordance with local/national regulations. Damaged cylinders should be handled by specialists only. Handle empty containers with care because residual vapours are flammable. All containers must be labelled to warn against exposure.

Ecology waste materials:

Avoid release to the environment. Empty containers should be taken for recycling, recovery or waste in accordance with local regulation.


SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
UN 1978	UN 1978	UN 1978	UN 1978	UN 1978
14.2. UN proper shipping name				
PROPANE	PROPANE	PROPANE	PROPANE	PROPANE
Transport document description				
UN 1978 PROPANE, 2.1, (B/D)	UN 1978 PROPANE, 2.1	UN 1978 Propane, 2.1	UN 1978 PROPANE, 2.1	UN 1978 PROPANE, 2.1
14.3. Transport hazard class(es)				
2.1	2.1	2.1	2.1	2.1
				
14.4. Packing group				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards				
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No
No supplementary information available				

14.6. Special precautions for user

Overland transport

Classification code (ADR):	2F
Special provisions (ADR):	392, 652, 657, 662, 674
Limited quantities (ADR):	0
Excepted quantities (ADR):	E0
Packing instructions (ADR):	P200
Mixed packing provisions (ADR):	MP9
Portable tank and bulk container instructions (ADR):	(M), T50
Tank code (ADR):	PxBN(M)
Tank special provisions (ADR):	TA4, TT9
Vehicle for tank carriage:	FL
Transport category (ADR):	2
Special provisions for carriage Loading, unloading and handling (ADR):	CV9, CV10, CV36
Special provisions for carriage Operation (ADR):	S2, S20
Hazard identification number (Kemler No.):	23
Orange plates:	
Tunnel restriction code (ADR):	B/D
EAC code:	2YE

Transport by sea

Limited quantities (IMDG):	0
Excepted quantities (IMDG):	E0
Packing instructions (IMDG):	P200
Tank instructions (IMDG):	T50
EmS No. (Fire):	F-D
EmS No. (Spillage):	S-U
Stowage category (IMDG):	E
Stowage and handling (IMDG):	SW2
Properties and observations (IMDG):	Flammable hydrocarbon gas. Explosive limits: 2.3% to 9.5% Heavier than air (1.56).

Air transport

PCA Excepted quantities (IATA):	E0
PCA Limited quantities (IATA):	Forbidden
PCA limited quantity max net quantity (IATA):	Forbidden
PCA packing instructions (IATA):	Forbidden
PCA max net quantity (IATA):	Forbidden
CAO packing instructions (IATA):	200
CAO max net quantity (IATA):	150kg
Special provisions (IATA):	A1
ERG code (IATA):	10L

Inland waterway transport

Classification code (ADN):	2F
Special provisions (ADN):	392, 657, 662, 674
Limited quantities (ADN):	0
Excepted quantities (ADN):	E0
Equipment required (ADN):	PP, EX, A
Ventilation (ADN):	VE01
Number of blue cones/lights (ADN):	1

Rail transport

Classification code (RID):	2F
Special provisions (RID):	392, 657, 662, 674
Limited quantities (RID):	0
Excepted quantities (RID):	E0
Packing instructions (RID):	P200
Mixed packing provisions (RID):	MP9
Portable tank and bulk container instructions (RID):	T50(M)
Tank codes for RID tanks (RID):	PxBN(M)
Special provisions for RID tanks (RID):	TU38, TE22, TA4, TT9, TM6
Transport category (RID):	2
Special provisions for carriage - Loading, unloading and handling (RID):	CW9, CW10, CW36
Colis express (express parcels) (RID):	CE3
Hazard identification number (RID):	23

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU Regulations

The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006:

Reference code	Applicable on
28.	1,3-Butadiene; Petroleum gases, liquefied
29.	1,3-Butadiene; Petroleum gases, liquefied
40.	Petroleum gases, liquefied

LIQUEFIED PETROLEUM GAS - COMMERCIAL PROPANE is not on the REACH Candidate List

LIQUEFIED PETROLEUM GAS - COMMERCIAL PROPANE is not on the REACH Annex XIV List

LIQUEFIED PETROLEUM GAS - COMMERCIAL PROPANE is not subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

LIQUEFIED PETROLEUM GAS - COMMERCIAL PROPANE is not subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Sources of Key data: REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006. CLP Inventory. ECHA (European Chemicals Agency).

Other information: None

Full text of H and EUH statements:

Flam. Gas 1A	Flammable gases, Category 1A
Press. Gas (Comp.)	Gases under pressure: Compressed gas
H220	Extremely flammable gas
H280	Contains gas under pressure; may explode if heated

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.