

COMMERCIAL PROPANE

Liquefied Petroleum Gas (odorised)

Safety Data Sheet prepared in accordance with Regulation (EC) No 1907/2006 (UK REACH) Annex II, as amended by Regulation (EU) 2015/830 and as it applies in Great Britain.

DOCUMENT CONTROL

SDS reference	AG-SDS-01	Version	2.0
Date of issue	July 2026	Supersedes	March 2024
Next review	July 2028	Approved by	Samantha Hartland

SECTION 1 IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

1.1 Product identifier

Substance name	Liquefied Petroleum Gas - Commercial Propane (odorised)
Trade name	Ant Gas Propane
Product description	Liquefied petroleum gas consisting predominantly of C3 hydrocarbons, supplied as a fuel in a closed system, meeting the requirements for commercial propane of BS 4250, with <0.1% 1,3-butadiene.
CAS number	68476-85-7
EC number	270-704-2
Index number	649-202-00-6
REACH registration	Exempt under Annex V (paragraph 7) to UK REACH as liquefied petroleum gas (LPG).

1.2 Relevant identified uses of the substance and uses advised against

Identified uses	Multi-purpose fuel, including: fuel for equipment specifically designed to run on commercial propane; internal combustion engine fuel; feedstock for the petrochemical industry.
Uses advised against	Any use other than those identified above. Not for use in equipment designed for commercial butane or natural gas without conversion.

1.3 Details of the supplier of the safety data sheet

Supplier	Ant Gas Limited
Address	Balderton Sawmills, Lache Lane, Chester CH4 9LF
Telephone	01244 661 099
Email	hello@antgas.co.uk
Website	www.antgas.co.uk
Competent person	hello@antgas.co.uk

1.4 Emergency telephone number

Ant Gas 24-hour emergency line	+44 (0)7415 404 400
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In an emergency

Call 999 and ask for the Fire Service. Do not attempt to tackle a gas fire.

SECTION 2 HAZARDS IDENTIFICATION
2.1 Classification of the substance or mixture

Classification according to the GB CLP Regulation (Regulation (EC) No 1272/2008 as it applies in Great Britain):

Hazard class and category	Hazard code	Hazard statement
Flammable gas, Category 1A	Flam. Gas 1A	H220: Extremely flammable gas
Gases under pressure - liquefied gas	Press. Gas (Liq.)	H280: Contains gas under pressure; may explode if heated

2.2 Label elements


GHS02 (flame) · GHS04 (gas cylinder)

Signal word	Danger
Hazard statements	H220: Extremely flammable gas H280: Contains gas under pressure; may explode if heated
Precautionary - prevention	P102: Keep out of reach of children. P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P243: Take action to prevent static discharges.
Precautionary - response	P377: Leaking gas fire - do not extinguish unless the leak can be stopped safely. P381: In case of leakage, eliminate all ignition sources.
Precautionary — storage	P410 + P403: Protect from sunlight. Store in a well-ventilated place.

Cylinder labelling: under Annex I to GB CLP, closed refillable cylinders and non-refillable cylinders within the scope of EN 417 containing fuel gases used only for combustion need carry only the pictogram and the hazard and precautionary statements concerning flammability. P410 and P403 may be omitted for gases filled in transportable cylinders in accordance with packing instruction P200 of the UN Model Regulations.

2.3 Other hazards

- Cold burns (frostbite) will result from skin or eye contact with the liquid product.
- Vapour is heavier than air and may travel to remote sources of ignition (for example along drainage systems or into basements).
- Abuse involving wilful inhalation of very high vapour concentrations, even for short periods, can cause unconsciousness and may prove fatal.
- Inhalation may cause irritation of the nose and throat, headache, nausea, vomiting, dizziness and drowsiness. In poorly ventilated or confined spaces, unconsciousness or asphyxiation may result.
- The material does not meet the criteria for PBT or vPvB in accordance with REACH Annex XIII.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS
3.1 Substances

Not applicable. The product is a UVCB petroleum substance and the information below is provided as for a mixture.

3.2 Mixtures

Composition given in accordance with Regulation (EC) No 1907/2006 (UK REACH).

Identifier / name	Index No.	CAS No.	EC No.	% v/v
Petroleum gases, liquefied	649-202-00-6	68476-85-7	270-704-2	> 99%
1,3-Butadiene	601-013-00-X	106-99-0	203-450-8	< 0.1%
Methanol (anti-icing agent)	603-001-00-X	67-56-1	200-659-6	< 0.125%
Ethanethiol / ethyl mercaptan (odorant)	016-022-00-9	75-08-1	200-837-3	< 0.005%

SECTION 4 FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation	Remove the affected person to fresh air. Keep the patient warm and at rest. If breathing has stopped, administer artificial respiration; give external cardiac massage if necessary. If the person is breathing but unconscious, place them in the recovery position. Obtain medical assistance immediately.
Skin contact	Cold burns should be flushed with tepid water to normalise temperature and until circulation returns. Cover the burns with sterile dressings. Do not apply ointments or powders. Obtain medical assistance immediately.
Eye contact	Cold burns should be flushed immediately with tepid water to normalise temperature. Hold the eyelids apart while flushing to rinse the entire surface of the eye and lids. Cover the eye with a sterile dressing and obtain medical assistance immediately.
Ingestion	Not applicable - the product is a gas at ambient temperature and pressure.
Protection of first-aiders	No action shall be taken that involves personal risk or that is undertaken without suitable training. It may be dangerous to the person giving aid to give mouth-to-mouth resuscitation.

4.2 Most important symptoms and effects, both acute and delayed

Frostbite (cold burn). The vapour may have a narcotic effect. Over-exposure may cause drowsiness, dizziness, disorientation and vertigo. The severity of symptoms will vary with the concentration and the length of exposure.

4.3 Indication of any immediate medical attention and special treatment needed

Note for the doctor: treat symptomatically.

SECTION 5 FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable media - small fires	Dry powder or carbon dioxide.
Suitable media - large fires	Do not extinguish. Stop the flow of product and cool the container with water spray. Water fog may be used to assist approach to the source of the fire. Large fires must only be fought by the Fire and Rescue Service.
Unsuitable media	DO NOT USE WATER JET. Do not use water or foam directly on burning gas.

5.2 Special hazards arising from the substance or mixture

These materials are delivered, stored and used at temperatures above their flash point. Avoid all naked flames, sparks, cigarettes and similar ignition sources.

IN CASE OF FIRE, EVACUATE THE AREA AND IMMEDIATELY ALERT THE FIRE AND RESCUE SERVICE

- Ensure an escape route is always available from any fire.
- If gas has ignited, do not attempt to extinguish it; if it is safe to do so, stop the gas flow and allow the gas to burn out.
- Use water spray to cool heat-exposed containers and to protect surrounding areas and personnel effecting shut-off.
- Beware of vapour accumulating to form explosive concentrations. Explosive vapours may travel, ignite at remote locations and flash back. Water spray may be used for vapour dispersal.

Pressurised containers are liable to explode violently when subjected to high temperatures. Every precaution must be taken to keep containers cool to avoid the possibility of a boiling liquid expanding vapour explosion (BLEVE). Fires in confined spaces must be dealt with by trained personnel wearing approved breathing apparatus.

5.3 Advice for firefighters

Fight the fire with normal precautions from a reasonable distance. Firefighters should wear full protective clothing including self-contained breathing apparatus. Keep containers cool by spraying with water if they are exposed to fire. Avoid release to the environment.

SECTION 6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Immediate emergency action	▪ Clear people away from the area to a safe place. ▪ Do not operate electrical equipment unless it is flameproof. ▪ Summon the emergency services. ▪ Treat or refer casualties if necessary.
Further action - fire, if safe to do so	▪ Stop the product flow. ▪ Use dry powder or carbon dioxide extinguishers. ▪ Cool containers exposed to fire with water fog or spray.
Further action - spillage, if safe to do so	▪ Extinguish naked lights, e.g. cigarettes. AVOID MAKING SPARKS. Do not use a mobile phone. ▪ Isolate power and other sources of ignition and ventilate the area. ▪ Position firefighting equipment. ▪ Try to stop the flow of liquid product. ▪ Cover drains and sewers. Disperse vapour with water spray. <i>Note: vapour may collect in confined spaces.</i>

6.2 Environmental precautions

Avoid release to the environment. Contain the spillage. Any large spillage into a watercourse must be reported to the relevant authority (Environment Agency, Natural Resources Wales or Scottish Environment Protection Agency).

6.3 Methods and material for containment and cleaning up

Only trained and properly protected personnel must be involved in clean-up operations.

Small scale	Contain spillages with sand, earth or other suitable absorbent material. Allow small spillages to evaporate provided there is adequate ventilation. Transfer to a lidded container for disposal or recovery. Ventilate the area and wash the spill site after material pick-up is complete.
Large scale	Evacuate the area. Fight any fire remotely because of the risk of explosion. Notify the police and Fire and Rescue Service as soon as possible.

6.4 Reference to other sections

See Sections 8 and 13.

SECTION 7 HANDLING AND STORAGE

General

- Cylinders containing commercial propane are designed to give either liquid or vapour offtake.
- Vapour offtake cylinders must be used in the vertical position with the outlet valve at the top.
- Liquid offtake cylinders must be stored and used in the position indicated on the cylinder.
- A face shield or safety goggles and impervious rubber gloves should be worn when transferring this product as a liquid.

7.1 Precautions for safe handling

- No smoking or naked lights.
- Switch off mobile phones.
- Ensure good ventilation.
- Avoid inhalation of vapour.
- Avoid contact with liquid and with cold storage containers.
- Wear protective footwear and suitable gloves when handling cylinders.
- Avoid contact with the eyes.

7.2 Conditions for safe storage, including any incompatibilities

Commercial propane must be stored in purpose-designed mild steel cylinders or tanks, or in other systems of suitable pressure rating. These should be segregated from oxidant gases and other oxidants in store. Reference should be made to the relevant HSE guidance and to the Liquid Gas UK Codes of Practice for the safe storage and handling of LPG (see Section 16).

- No smoking or naked lights.
- Switch off mobile phones.
- Store and use only equipment and containers designed for use with this product.
- Store and dispense only in well-ventilated areas, away from heat and sources of ignition.
- Containers must be properly labelled; do not remove warning labels from containers.
- Check that cylinders are within test date. If overdue for inspection they must be returned to Ant Gas.
- Ensure that pipework and handling equipment are designed for the purpose, inspected and maintained, and electrically bonded and earthed to prevent the accumulation of static charge.
- Explosive air/vapour mixtures may form at ambient temperature.

7.3 Specific end use(s)

Commercial propane is a multi-purpose product intended for uses including:

- fuel for equipment specifically designed to be powered by commercial propane;
- internal combustion engine fuel;
- feedstock for the petrochemical industry.

Note: product spilt on clothing may give rise to delayed evaporation and a subsequent fire hazard.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

The following limits are taken from HSE guidance note EH40/2005 Workplace exposure limits (2020 edition, as amended).

Commercial propane is not subject to a specific workplace exposure limit. As a liquefied petroleum gas, the following limits apply:

Substance	LTEL (8-hr TWA)	STEL (15-min)
Liquefied petroleum gas	1000 ppm (1750 mg/m ³)	1250 ppm (2180 mg/m ³)

Propane is a simple asphyxiant. As LPG vapour is denser than air it can accumulate in pits, basements and other confined or low-lying spaces. A flammable atmosphere will form at concentrations well below those at which asphyxiation becomes likely, so control of ignition sources and ventilation — not exposure monitoring against the WEL — is the primary safeguard. See the guidance on asphyxiants in EH40/2005.

Recommended monitoring procedures: personal or workplace atmosphere monitoring may be required to determine the effectiveness of ventilation or other control measures, and whether respiratory protective equipment is necessary. Reference should be made to BS EN 689 for the assessment of exposure by inhalation to chemical agents, and to national guidance on methods for the determination of hazardous substances.

Biological limit value	None established.
DNEL / PNEC	Not available. LPG is exempt from registration under Annex V to UK REACH, so no chemical safety assessment and no derived no-effect levels have been established.

8.2 Exposure controls

Appropriate engineering controls: provide natural or explosion-proof ventilation adequate to ensure that flammable gas does not reach its lower explosive limit.

Individual protection measures:

- Wear suitable gloves and overalls to prevent cold burns and frostbite (neoprene or LPG-resistant gauntlet gloves).
- In filling operations wear protective clothing including impervious gloves and safety goggles or face shields to BS EN 166, BS EN 167 and BS EN 168. (At retail autogas installations alternative arrangements may be put in place.)
- Wear protective footwear to BS EN ISO 20345 when handling cylinders.
- Where significant exposure to vapour may be anticipated, suitable approved respiratory protective equipment (RPE) should be worn. Filter type AX to BS EN 14387 is appropriate for low-boiling organic vapours.
- Selection of RPE must be based on actual or anticipated exposure levels and the safe working limits of the equipment selected. Respirators must not be used in oxygen-deficient atmospheres; where there is a risk of oxygen depletion, breathing apparatus is required.
- RPE must be used strictly in accordance with the manufacturer's instructions and any statutory requirements governing its selection and use. All wearers must be trained in its use, and the programme should follow HSE guidance HSG53 Respiratory protective equipment at work.

Environmental exposure controls: not applicable. The substance is a vapour at normal temperature and pressure; in normal use it is not discharged into the atmosphere but burned as a fuel.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Colourless liquefied gas
Odour	Odorant added to give a distinctive smell
Odour threshold	Detectable at <20% of the lower flammable limit
pH	Not applicable
Melting point	-187 °C
Boiling point	-42 °C
Flash point	-104 °C (PMCC)
Evaporation rate	Not available
Flammability limits in air	2% to 11% v/v
Auto-ignition temperature	460–580 °C
Vapour pressure	7.5 bar at 15 °C
Relative density (liquid)	0.512 at 15 °C (water = 1.0)
Relative density (vapour)	1.5 at 15 °C (air = 1.0)
Solubility in water	Negligible

Viscosity	Not established
Explosive properties	Vapour may create explosive atmospheres
Oxidising properties	Not oxidising

9.2 Other information

No other information relevant to this product.

SECTION 10 STABILITY AND REACTIVITY

10.1 Reactivity	Stable under normal conditions of storage and use.
10.2 Chemical stability	Commercial propane is stable at ambient temperatures. Hazardous polymerisation will not occur; however, it can form an explosive mixture with air.
10.3 Possibility of hazardous reactions	Hazardous polymerisation will not occur.
10.4 Conditions to avoid	Sources of ignition. Storage above 50 °C.
10.5 Incompatible materials	Propane reacts violently with strong oxidising agents (for example chlorates, which may be used in agriculture), peroxides, chlorine dioxide and concentrated nitric acid. Some plastics and elastomers are attacked.
10.6 Hazardous decomposition products	The substances arising from thermal decomposition depend largely on the conditions bringing about decomposition. Normal combustion produces carbon dioxide; carbon monoxide may be produced where there is insufficient air for complete combustion.

SECTION 11 TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Eye contact	Contact with liquefied propane presents a risk of serious damage to the eyes (cold burns).
Skin contact	Contact with liquefied propane will cause cold burns and frostbite to the skin.
Inhalation	Low vapour concentrations may cause nausea, dizziness, headache and drowsiness. High concentrations may have a narcotic effect and may produce symptoms of oxygen deficiency which, coupled with central nervous system depression, may lead to rapid loss of consciousness.
Volatile substance abuse	Under normal conditions of use the product is not hazardous. However, abuse involving deliberate inhalation of very high concentrations of vapour, even for short periods, can produce unconsciousness and may result in sudden death.
Germ cell mutagenicity	Not classified. Contains <0.1% 1,3-butadiene (Note K applies).
Carcinogenicity	Not classified. Contains <0.1% 1,3-butadiene (Note K applies).
Reproductive toxicity	Not classified. No known effects.
Aspiration hazard	Based on available data, the classification criteria are not met.
STOT — single exposure	Based on available data, the classification criteria are not met.
STOT — repeated exposure	Based on available data, the classification criteria are not met.

11.2 Other information

None.

SECTION 12 ECOLOGICAL INFORMATION

12.1 Toxicity

No known ecological damage is caused by this product.

Air	Commercial propane is a mixture of volatile components which, when released to air, react rapidly with hydroxyl radicals and ozone to give carbon dioxide and water.
Water	If released to water the product will rapidly evaporate.
Soil	If released to soil the product will rapidly evaporate.

12.2 Persistence and degradability

Unlikely to cause long-term adverse effects in the environment.

12.3 Bioaccumulative potential

This material is not expected to bioaccumulate.

12.4 Mobility in soil

Spillages are unlikely to penetrate the soil.

12.5 Results of PBT and vPvB assessment

Not classified as PBT or vPvB.

12.6 Other adverse effects

None known.

SECTION 13 DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

The product is suitable for burning in an enclosed, controlled burner for its fuel value, or for disposal by supervised incineration at very high temperature to prevent the formation of undesirable combustion products.

Waste classification: List of Waste code 16 05 04* - gases in pressure containers (including halons) containing dangerous substances. The asterisk denotes an absolute hazardous waste entry. Disposal must comply with the duty of care under section 34 of the Environmental Protection Act 1990 and with the Hazardous Waste (England and Wales) Regulations 2005, as amended.

13.2 Additional information

- Ant Gas cylinders remain the property of Ant Gas Limited and must be returned to Ant Gas when no longer needed.
- Users wishing to dispose of surplus quantities of Ant Gas propane should contact Ant Gas Limited.
- Emptying of tanks containing Ant Gas propane is the responsibility of Ant Gas Limited.
- Do not discharge product into areas where there is a risk of forming an explosive mixture with air.
- Empty vessels or cylinders may contain residual product and vapour and represent a fire hazard. Never incinerate, crush, weld, solder or braze empty containers.
- Hazard warning labels are a guide to the safe handling of empty packaging and must not be removed.

SECTION 14 TRANSPORT INFORMATION

Classified as dangerous for carriage.

14.1	UN number	UN 1978
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14.2	UN proper shipping name	PROPANE
14.3	Transport hazard class(es)	Class 2 - gases. Classification code 2F. Label 2.1 (flammable gas). IMDG class 2.1. IATA/ICAO class 2.1 - forbidden on passenger aircraft.
14.4	Packing group	Not applicable - packing groups are not assigned to Class 2 goods.
14.5	Environmental hazards	Not a marine pollutant.
14.6	Special precautions for user	Hazard identification number (Kemler) 23. Emergency action code 2YE. ADR tunnel restriction code (B/D). Carry in accordance with ADR and the Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (as amended).
14.7	Transport in bulk according to MARPOL Annex II and the IBC Code	Not applicable.

SECTION 15 REGULATORY INFORMATION

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

This material has been classified in accordance with the United Nations Globally Harmonised System of Classification and Labelling of Chemicals (GHS), as implemented in Great Britain by the GB CLP Regulation (Regulation (EC) No 1272/2008 as retained and amended in domestic law), and Article 31 of Regulation (EC) No 1907/2006 (UK REACH).

Dangerous for supply.

Hazard statements	H220: Extremely flammable gas. H280: Contains gas under pressure; may explode if heated.
Precautionary statements	P102: Keep out of reach of children. P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P377: Leaking gas fire - do not extinguish unless the leak can be stopped safely. P381: In case of leakage, eliminate all ignition sources. P403: Store in a well-ventilated place.
Product label	Danger - Extremely flammable gas. Contains: propane. Symbol: flame.

GHS and transport labels



Relevant legislation

- GB CLP Regulation - Regulation (EC) No 1272/2008 on classification, labelling and packaging, as retained and amended in GB law.
- UK REACH - Regulation (EC) No 1907/2006, as retained and amended in GB law.
- Control of Major Accident Hazards Regulations 2015 (COMAH) - LPG is a named dangerous substance (Part 2, flammable gases). The EU equivalent is Directive 2012/18/EU (Seveso III).
- Dangerous Substances and Explosive Atmospheres Regulations 2002 (DSEAR).
- Control of Substances Hazardous to Health Regulations 2002 (COSHH), as amended.
- The Regulatory Reform (Fire Safety) Order 2005.
- Provision and Use of Work Equipment Regulations 1998 (PUWER).
- Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016 (EPS/ATEX).
- Personal Protective Equipment at Work Regulations 1992, as amended by the 2022 Regulations.

- Pressure Systems Safety Regulations 2000 (PSSR).
- Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (as amended).
- Dangerous Substances (Notification and Marking of Sites) Regulations 1990.

15.2 Chemical safety assessment

Not applicable. Liquefied petroleum gas is exempt from registration under Annex V to UK REACH, so no chemical safety assessment has been carried out.

SECTION 16 OTHER INFORMATION

Abbreviations and acronyms

LTEL	Long-term exposure limit	PBT	Persistent, bioaccumulative and toxic
STEL	Short-term exposure limit	vPvB	Very persistent and very bioaccumulative
DNEL	Derived no-effect level	STOT	Specific target organ toxicity
PNEC	Predicted no-effect concentration	BLEVE	Boiling liquid expanding vapour explosion
WEL	Workplace exposure limit	RPE	Respiratory protective equipment

References

Various sources of data have been used in compiling this safety data sheet, including but not limited to:

- European Chemicals Agency - Guidance on the compilation of safety data sheets.
- HSE EH40/2005 Workplace exposure limits (2020 edition, as amended).
- BS 4250 - Specification for commercial butane and commercial propane.
- Liquid Gas UK Code of Practice 29 - Hazard information and packaging labelling for commercial LPG cylinders.
- Suppliers' safety data sheets.

Health and safety advisory literature

Liquid Gas UK (formerly UKLPG) publishes a series of industry Codes of Practice. For the current publication list see www.liquidgasuk.org. Further guidance on the legislation listed in Section 15 is available from www.hse.gov.uk, where HSE priced and free publications can also be obtained.

Revision history

Version	Date	Summary of changes
2.0	July 2026	Reformatted to the 16-section Annex II layout; classification updated to GB CLP (Flam. Gas 1A); references to repealed EU Directives 67/548/EEC and 1999/45/EC removed; UKLPG references updated to Liquid Gas UK; Sections 14 and 15 expanded.
1.0	March 2024	Initial document

This safety data sheet relates solely to this product and the information given is based on the present state of knowledge. It is intended to give guidance and is believed to be accurate and to represent good practice at the time of publication. It does not replace the need to consult other formal documents where further information may be required. No responsibility or liability is accepted by Ant Gas Limited for any loss or damage arising out of the information given. It is important that users of this publication adhere to all legal requirements, regulations, codes of practice and standards, particularly those relating to gas safety. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means without the written permission of Ant Gas Limited.

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