

SAFETY DATA SHEET



Revision: 4.0 Date: 03.06.2019





ACCORDING TO EC-REGULATIONS 1907/2006 (REACH), 1272/2008 (CLP) & 2015/830

LPG V8002a

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier	
Product Name	Petroleum gases, liquified
Product Description	V8002a-LPG- Petroleum gases, liquified
Trade Name	LPG
Product code	LPG
CAS No.	68476-85-7
EC No.	270-704-2
REACH Registration No.	Not applicable
1.2 Relevant identified uses of the substance or mixture and uses advised against	
Identified Use(s)	Fuel for engines. Blend component.
Uses Advised Against	
1.3 Details of the supplier of the safety data sheet	
Company Identification	Vitol SA Place des Bergues 3 P.O. Box 2056 1211 Geneva 1 Switzerland
Telephone	+31 10 498 7200
Fax	+31 10 452 9545
E-Mail (competent person)	xreach@vitol.com
1.4 Emergency telephone number	
Emergency Phone No.	+44 (0) 1235 239 670, 24/7
Languages spoken	All official European languages.

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture	
2.1.1 Regulation (EC) No. 1272/2008 (CLP)	Flam. Gas 1; H220 Acute Tox. 4; H332 Muta. 1B; H340 Carc. 1A; H350 Repr. 1A; H360D STOT RE 2; H373 Gases under pressure; H280
2.2 Label elements	According to Regulation (EC) No. 1272/2008 (CLP)
Product Description	V8002a-LPG- Petroleum gases, liquified
Hazard Pictogram(s)	   
Signal Word(s)	Danger
Hazard Statement(s)	H220: Extremely flammable gas. H332: Harmful if inhaled. H340: May cause genetic defects. H350: May cause cancer. H360D: May damage the unborn child.

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H373: May cause damage to organs through prolonged or repeated exposure:
Inhalation
H280: Contains gas under pressure; may explode if heated.

Supplemental information

Not applicable.

Precautionary Statement(s)

P201: Obtain special instructions before use.
P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P260: Do not breathe gas.
P377: Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P403: Store in a well-ventilated place.

2.3 Other hazards

The vapour is heavier than air; beware of pits and confined spaces. Vapour may create explosive atmosphere. The vapour may have narcotic effect. Frostbite (cold burn). Product may release Hydrogen Sulphide: A specific assessment of inhalation risks from the presence of hydrogen sulphide in tank headspaces, confined spaces, product residue, tank waste and waste water, and unintentional releases should be made to help determine controls appropriate to local circumstances.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances Substances in preparations / mixtures

SUBSTANCE	CAS No.	EC No.	REACH Registration No.	%W/W
Petroleum gases, liquefied*	68476-85-7	270-704-2	Not yet assigned in the supply chain	100

*1,3-butadiene content: <0.1%. Estimated Benzene content: $\geq 0.1\%$. Estimated Hydrogen sulphide $\geq 0.5\%$ <1%. Estimated Carbon monoxide content 1%.

SECTION 4: FIRST AID MEASURES



4.1 Description of first aid measures

Self-protection of the first aider

The vapour is heavier than air; beware of pits and confined spaces. If it is suspected that fumes are still present, the responder should wear an appropriate mask or self-contained breathing apparatus.

Inhalation

IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. If symptoms persist, obtain medical attention.

Skin Contact

IF ON SKIN (or hair): Remove contaminated clothing immediately and drench affected skin with plenty of water, then wash with soap and water. If irritation (redness, rash, blistering) develops, get medical attention.

Eye Contact

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.

Ingestion

IF SWALLOWED: Rinse mouth. Give 200-300mls (half pint) water to drink. Never give anything by mouth to an unconscious person. Do not induce vomiting. Get medical advice/attention if you feel unwell.

4.2 Most important symptoms and effects, both acute

Harmful if inhaled. May cause genetic defects. May cause cancer. May damage

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and delayed

the unborn child. May cause damage to organs through prolonged or repeated exposure.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically. If breathing is laboured, oxygen should be administered by qualified personnel. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable Extinguishing media
Unsuitable extinguishing media

Foam, CO₂ or dry powder.
Do not use water jet. Direct water jet may spread the fire.

5.2 Special hazards arising from the substance or mixture

Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Vapour may create explosive atmosphere. The vapour is heavier than air; beware of pits and confined spaces. Combustion or thermal decomposition will evolve very toxic, irritant and flammable vapours. Hazardous decomposition product(s): Carbon monoxide, Carbon dioxide, A mixture of solid and liquid particulates and gases including unidentified organic and inorganic compounds. Product may release Hydrogen Sulphide.

Liquefied gas

Contains gas under pressure; may explode if heated. Sealed containers may rupture explosively if hot. Do not pierce or burn, even after use.

5.3 Advice for fire-fighters

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

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

H₂S Warning

Shut off source of leak if safe to do so. Eliminate all ignition sources if safe to do so. Ensure adequate ventilation. Do not breathe vapour. Stay upwind/keep distance from source. In case of inadequate ventilation wear respiratory protection. Avoid all contact. Wear suitable protective clothing. Contaminated clothing should be thoroughly cleaned. The vapour is heavier than air; beware of pits and confined spaces. Danger of flashback. Take precautionary measures against static discharge. Do not use sparking tools. Spillage can create tripping or slipping hazards for personnel, or skidding hazards for vehicles. Only trained and properly protected personnel must be involved in clean-up operations. Product may release Hydrogen Sulphide: A specific assessment of inhalation risks from the presence of hydrogen sulphide in tank headspaces, confined spaces, product residue, tank waste and waste water, and unintentional releases should be made to help determine controls appropriate to local circumstances.

6.2 Environmental precautions

Avoid release to the environment. Contain the spillage. Any large spillage into watercourses must be alerted to the regulatory authority responsible for environmental protection or other regulatory body.

6.3 Methods and material for containment and cleaning up

Small scale:

Only trained and properly protected personnel must be involved in clean-up operations.
Contain spillages with sand, earth or any suitable adsorbent 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 spill site after material pick-up is complete.

Large scale:

In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion. Notify police and fire brigade as soon as possible.

6.4 Reference to other sections

See Section: 8,13

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Eliminate sources of ignition. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. The vapour is heavier than air; beware of pits and confined spaces. Danger of flashback. Take precautionary measures against static discharge. Do not use sparking tools. Provide adequate

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H2S Warning:

ventilation, including appropriate local extraction if dusts, fumes or vapours are likely to be evolved. In case of inadequate ventilation wear respiratory protection. Wear suitable protective clothing. Do not breathe vapour. Avoid all contact. Wash hands and exposed skin thoroughly after handling. Do not eat, drink or smoke at the work place. Wash contaminated clothing before reuse. Product may release Hydrogen Sulphide: A specific assessment of inhalation risks from the presence of hydrogen sulphide in tank headspaces, confined spaces, product residue, tank waste and waste water, and unintentional releases should be made to help determine controls appropriate to local circumstances.

7.2 Conditions for safe storage, including any incompatibilities

Storage temperature
Incompatible materials

Store in a cool/low-temperature, well-ventilated (dry) place away from heat and ignition sources. Ensure adequate earthing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Keep cool.

Strong oxidising agents. Keep away from heat and sources of ignition.

7.3 Specific end use(s)

See Section: 1.2

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

8.1.1 Occupational Exposure Limits

SUBSTANCE	CAS No.	LEL (8 hr TWA ppm)	LEL (8 hr TWA mg/m ³)	STEL (ppm)	STEL (mg/m ³)	Note
Liquefied petroleum gas	68476-85-7	1000	1750	1250	2180	WEL

Source: WEL: Workplace Exposure Limit (UK HSE EH40)

8.1.2 Biological limit value

Not established.

8.1.3 PNECs and DNELs

Not established.

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Provide adequate ventilation, including appropriate local extraction if dusts, fumes or vapours are likely to be evolved.

8.2.2 Individual protection measures, such as personal protective equipment (PPE)

Ensure adequate ventilation. Guarantee that the eye flushing systems and safety showers are located close to the working place.

Eye/ face protection

Wear eye protection with side protection (EN166).



Skin protection

Hand protection: Wear impervious gloves (EN374). Breakthrough time of the glove material: refer to the information provided by the gloves' producer.



Body protection: Apron or other light protective clothing, boots and plastic or rubber gloves.

Respiratory protection

In case of inadequate ventilation wear respiratory protection. Recommended: BS EN 14387:2004+A1



Thermal hazards

Not applicable.

8.2.3 Environmental Exposure Controls

Avoid release to the environment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Colourless Liquefied gas.
Odour	Sweet
Odour threshold	Not determined.
pH	Not established.
Melting point/freezing point	-183 °C – -20 °C
Initial boiling point and boiling range	-1 °C
Flash point	-104 °C – -60 °C
Evaporation rate	Not determined.
Flammability (solid, gas)	Extremely flammable gas.
Upper/lower flammability or explosive limits	Flammable Limits (Lower) (%v/v): 1.8 Flammable Limits (Upper) (%v/v): 15
Vapour pressure	>60,000 - 9300,000 pascal @ 20 °C
Vapour density	> 1
Relative density	0.506-0.583 @ 15 °C
Solubility(ies)	Water: 0.024-0.061 g/l @ 20°C
Partition coefficient: n-octanol/water	Log Pow: ≤ 2.8
Auto-ignition temperature	410 – 540°C
Decomposition Temperature	Not established.
Viscosity	Not applicable.
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.

9.2 Other information

None known.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity	Not determined. Stable under normal conditions.
10.2 Chemical stability	Stable under normal conditions.
10.3 Possibility of hazardous reactions	Not determined. No information available.
10.4 Conditions to avoid	Keep away from heat and sources of ignition.
10.5 Incompatible materials	Keep away from: Strong oxidising agents.
10.6 Hazardous decomposition product(s)	Combustion products: Carbon monoxide, Carbon dioxide, A mixture of solid and liquid particulates and gases including unidentified organic and inorganic compounds.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

Ingestion
Inhalation

All test data taken from existing ECHA registrations for the substances mentioned. For classification purposes

Based upon the available data, the classification criteria are not met.
Acute Tox. 4; Harmful if inhaled.

Estimated LC50 Gas > 2 500 ≤ 20 000 ppm

Hydrogen Sulphide: Acute Tox. 2 H330 - LC50 Gas (rat) 444 ppm OECD 403

Carbon Monoxide: Acute Tox. 3 H331 - LC50 Gas (rat) 1300 ppm OECD 403

Based upon the available data, the classification criteria are not met.

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Muta. 1B; May cause genetic defects.

Benzene: In Vitro - Positive (hamster) study result 1985

Benzene: In Vivo - Positive (mouse) study result 1996

Carc. 1A; May cause cancer.

Benzene: Positive (rat) Test Result EPA OPP 83-5

Repr. 1A; May damage the unborn child.

Toxic for Reproduction - Negative (rat) study result OECD 413

Carbon Monoxide: Repr. 1A H360D – LOAEC 65ppm

Based upon the available data, the classification criteria are not met.

Skin Contact

Skin corrosion/irritation**Serious eye damage/irritation****Respiratory or skin sensitization****Germ cell mutagenicity****Carcinogenicity****Reproductive toxicity****STOT - single exposure**

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STOT - repeated exposure	STOT RE 2; May cause damage to organs through prolonged or repeated exposure: Inhalation
Aspiration hazard	Based upon the available data, the classification criteria are not met.
11.2 Other information	Not applicable - Liquefied gas None.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity	Based upon the available data, the classification criteria are not met. Estimated LC50 (Fish) 147.54 mg/L (96 hour) QSAR
12.2 Persistence and degradability	Readily biodegradable. QSAR / study result 1981
12.3 Bioaccumulative potential	Not determined.
12.4 Mobility in soil	The product is predicted to have moderate mobility in soil. Slightly soluble in: Water (0.024-0.061 g/l @ 20°C)
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	Disposal should be in accordance with local, state or national legislation. Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point.
13.2 Additional Information	Containers of this material may be hazardous when empty since they retain product residue. Do not pierce or burn, even after use.

SECTION 14: TRANSPORT INFORMATION

	ADR/RID	IMDG	IATA/ICAO
14.1 UN number	1075	1075	1075
14.2 UN proper shipping name	PETROLEUM GASES, LIQUEFIED	PETROLEUM GASES, LIQUEFIED	PETROLEUM GASES, LIQUEFIED
14.3 Transport hazard class(es)	2	2	2
14.4 Packing group	None assigned.	None assigned.	None assigned.
14.5 Environmental hazards	Not classified.	Not classified.	Not classified.
14.6 Special precautions for user	See Section: 2		
14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable	Not applicable	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 Annex XVII (Restrictions)	Authorisations and/or Restrictions On Use Petroleum gases, liquefied (Estimated Benzene content: $\geq 0.1\%$) Entry 28: Restriction on supply of substances and mixtures to the general public, if classified as Carc. 1A or 1B; Entry 29: Restriction on supply of substances and mixtures to the general public, if classified as Muta. 1A or 1B
15.1.2 National regulations Germany	Water hazard class: 1
15.2 Chemical Safety Assessment	Not applicable.

SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: Header and Section 1.3

References:

Existing ECHA registration(s) for Petroleum gases, liquified (CAS No. 68476-85-7), Carbon Monoxide (CAS No. 630-08-0), Hydrogen Sulphide (CAS No. 7783-06-4), Benzene (CAS No. 71-43-2)

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This Safety Data Sheet was prepared in accordance with EC Regulation (EC) 1907/2006 (REACH), 1272/2008 (CLP) & 2015/830.

LEGEND

LTEL	Long Term Exposure Limit
STEL	Short Term Exposure Limit
DNEL	Derived No Effect Level
PNEC	Predicted No Effect Concentration
PBT	PBT: Persistent, Bioaccumulative and Toxic
vPvB	very Persistent and very Bioaccumulative
OECD	Organisation for Economic Cooperation and Development

Training advice: Consideration should be given to the work procedures involved and the potential extent of exposure as they may determine whether a higher level of protection is required.

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