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

1.1. Product identifier

Product form : Substance
Trade name/designation : LPG – Automotive fuel
EC Index : 649-202-00-6
EC-No. : 270-704-2
CAS-No. : 68476-85-7
REACH registration No. : 01-2119485911-31-0009
Synonyms : butane-propane mixture
Product group : Trade product

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

1.2.1. Relevant identified uses

Main use category : Industrial use,Professional use
Use of the substance/mixture : Fuels
Propellant
Blowing agent
Intermediate, functional monomer
Formulation
Distribution

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Supplier
NIS a.d. Novi Sad
Narodnog Fronta 12
21000 Novi Sad
Serbia
T + 381 (0) 21 481 1111
REACHNIS@nis.rs

Only Representative
BENS Consulting d.o.o.
Špruha 19
1236 Trzin
Slovenija
T +386 41 979 800
info@bens-consulting.eu

1.4. Emergency telephone number

Emergency number : + 381 (0) 21 481 1111 (08-16h)
+ 381 (0)11 360 8440 (24 h)
+ 381 (0)11 266 1122 (24 h)
+ 381 (0)11 266 2755 (24 h)

Country/Area	Organisation/Company	Address	Emergency number	Comment
Ireland	National Poisons Information Centre Beaumont Hospital	PO Box 1297 Beaumont Road 9 Dublin	+353 1 809 2566 (Healthcare professionals-24/7) +353 1 809 2166 (public, 8am - 10pm, 7/7)	

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 : Liquefied gas	H280

Full text of H- and EUH-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 GHS04

Signal word : 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.

Listed on CLP Annex VI : EC Index-No.: 649-202-00-6

2.3. Other hazards

Other hazards : Results of PBT and vPvB assessment : This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605

SECTION 3: Composition/information on ingredients

3.1. Substances

Comments : * Note K : The harmonised classification as a carcinogen or mutagen applies unless it can be shown that the substance contains less than 0,1 % w/w 1,3-butadiene (Einecs No 203-450-8), in which case a classification in accordance with Title II of this Regulation shall be performed also for those hazard classes. Where the substance is not classified as a carcinogen or mutagen, at least the precautionary statements (P102-)P210-P403 shall apply.

Substance name : LPG – Automotive fuel

CAS-No. : 68476-85-7

EC-No. : 270-704-2

EC Index : 649-202-00-6

Substance name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Petroleum gas; Petroleum gases, liquefied (< 0,1% butadiene) (*)	CAS-No.: 68476-85-7 EC-No.: 270-704-2 EC Index: 649-202-00-6 REACH-no: 01-2119485911-31-0009	≤ 100	Flam. Gas 1A, H220 Press. Gas (Liq.), H280 Muta. 1B, H340 Carc. 1A, H350
1,3-Butadiene	CAS-No.: 106-99-0 EC-No.: 203-450-8 EC Index: 601-013-00-X	< 0,1	Flam. Gas 1A, H220 Press. Gas (Liq.), H280 Muta. 1B, H340 Carc. 1A, H350

Full text of H- and EUH-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

Additional advice : First aider: Pay attention to self-protection!. Show this safety data sheet to the doctor in attendance. In case of doubt or persistent symptoms, consult always a physician. Concerning personal protective equipment to use, see section 8. Never give anything by mouth to an unconscious person. Give oxygen or artificial respiration as needed.

Inhalation : Keep at rest. Give oxygen or artificial respiration if necessary. Remove casualty to fresh air and keep warm and at rest. In case of doubt or persistent symptoms, consult always a physician.

Skin contact : Remove contaminated clothing and shoes. Gently wash with plenty of soap and water. In case of doubt or persistent symptoms, consult always a physician. In case of frostbite, wash with plenty of water; do not remove clothing. Wash contaminated clothing before reuse. Get medical advice/attention.

Eyes contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. In case of doubt or persistent symptoms, consult always a physician.

Ingestion : Rinse mouth immediately and drink plenty of water. Get medical advice/attention.

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

Inhalation : May be irritating. The following symptoms may occur: Dizziness, Headache, Nausea, Vomiting.

Skin contact : May be irritating. The following symptoms may occur: Can cause frostbite.

Eyes contact : May be irritating. The following symptoms may occur: Can cause frostbite.

Ingestion : Ingestion unlikely.

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 : Carbon dioxide. dry extinguishing powder. carbon dioxide (CO2), powder, alcohol-resistant foam, water spray.

Unsuitable extinguishing media : Strong water jet.

5.2. Special hazards arising from the substance or mixture

Specific hazards : Extremely flammable gas. Heating may cause an explosion. Vapours may form explosive mixture with air. Vapours are heavier than air and may spread along floors. Vapours are heavier than air and may travel considerable distance to an ignition source and flash back to source of vapours. Heating will cause a rise in pressure with a risk of bursting. Container may explode if heated.

Hazardous decomposition products in case of fire : Carbon oxides (CO, CO2).

5.3. Advice for firefighters

Firefighting instructions : Evacuate area. Use water spray or fog for cooling exposed containers. Contain the extinguishing fluids by bunding. Prevent fire fighting water from entering the environment. Leaking gas fire: Do not extinguish, unless leak can be stopped safely.

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus.

Other information : Do not allow run-off from fire-fighting to enter drains or water courses. Dispose of waste in accordance with environmental legislation.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

For non-emergency personnel : Stay upwind/keep distance from source. Provide adequate ventilation. Avoid contact with skin, eyes and clothing. Do not breathe gas. Use personal protective equipment as required. Concerning personal protective equipment to use, see section 8. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ensure equipment is adequately earthed. Use explosion-proof equipment. Use only non-sparking tools.

6.1.2. For emergency responders

For emergency responders : Ensure procedures and training for emergency decontamination and disposal are in place. Concerning personal protective equipment to use, see section 8.

6.2. Environmental precautions

Do not allow to enter into surface water or drains. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Stop leak if safe to do so. Leave evaporate and disperse. Hose down gases, fumes and/or dust with water. All processes must be supervised by specialists or authorised personnel. This material and its container must be disposed of in a safe way, and as per local legislation.

6.4. Reference to other sections

Concerning personal protective equipment to use, see section 8. Concerning disposal elimination after cleaning, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Extremely cold liquid and gas under pressure. Causes severe frostbite. Provide adequate ventilation. Do not breathe gas. Avoid contact with skin, eyes and clothing. Use personal protective equipment as required. Concerning personal protective equipment to use, see section 8. Keep away from heat and direct sunlight. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tight closed. Take any precaution to avoid mixing with Incompatible materials, Refer to Section 10 on Incompatible Materials. Ensure proper process control to avoid excess waste discharge (temperature, concentration, pH, time). Avoid release to the environment. Ground/bond container and receiving equipment. Use explosion-proof equipment. Use only non-sparking tools.

Hygiene measures : Keep good industrial hygiene. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not eat, drink or smoke when using this product. Keep away from food, drink and animal feedingstuffs. Remove contaminated clothes. Separate working clothes from town clothes. Launder separately. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Gases under pressure. Liquefied gas. Keep container tightly closed. Store in a dry, cool and well-ventilated place. Do not store near or with any of the incompatible materials listed in section 10. Take precautionary measures against static discharge.

Incompatible materials : Strong oxidizing agents.

Heat and ignition sources : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Protect from sunlight.

Special rules on packaging : Containers which are opened should be properly resealed and kept upright to prevent leakage. Keep in properly labelled containers. Do not pierce or burn, even after use. Do not puncture or incinerate, even when empty.

Packaging materials : Keep only in the original container.

Germany

German storage class (LGK) : LGK 2A - Gases (except aerosol dispensers and lighters)

Switzerland

Storage class (LK) : LK 2 - Liquefied or pressurized gases

7.3. Specific end use(s)

For further information see section 1.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

1,3-Butadiene (106-99-0)	
EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL TWA	2,2 mg/m³
	1 ppm
Austria - Occupational Exposure Limits	
TRK (OEL TWA)	2,2 mg/m³
	1 ppm
OEL chemical category	Group A1 Carcinogen
Belgium - Occupational Exposure Limits	
OEL TWA	2,2 mg/m³
	1 ppm
OEL chemical category	Carcinogen
Bulgaria - Occupational Exposure Limits	
OEL TWA	2,2 mg/m³
	1 ppm
Croatia - Occupational Exposure Limits	
GVI (OEL TWA)	2,2 mg/m³
	1 ppm
OEL chemical category	Carcinogen Category 1A, Mutagen Category 1B
Cyprus - Occupational Exposure Limits	
OEL TWA	2,2 mg/m³
	1 ppm
Czech Republic - Occupational Exposure Limits	
PEL (OEL TWA)	10 mg/m³
OEL chemical category	Potential for cutaneous absorption
Denmark - Occupational Exposure Limits	
OEL TWA	2,2 mg/m³
	1 ppm
OEL STEL	4,4 mg/m³
	2 ppm
Estonia - Occupational Exposure Limits	
OEL TWA	1 mg/m³
	0,5 ppm

1,3-Butadiene (106-99-0)	
OEL STEL	10 mg/m³
	5 ppm
OEL chemical category	Carcinogenic substance
Finland - Occupational Exposure Limits	
HTP (OEL TWA)	2,2 mg/m³
	1 ppm
France - Occupational Exposure Limits	
VME (OEL TWA)	2,2 mg/m³ (restrictive limit)
	1 ppm (restrictive limit)
OEL chemical category	Carcinogen category 1A, Mutagen category 1B
Germany - Occupational Exposure Limits (TRGS 900)	
Occupational exposure limit value (mg/m³) (TRGS900)	0,5 - 5 mg/m³
Occupational exposure limit value (ppm) (TRGS900)	0,2 - 2 ppm
Germany - Occupational Exposure Limits (Generic OEL data)	
TRGS 910	Risk-related concept of measures for activities involving carcinogenic hazardous substances : 0,5 - 5 mg/m³ & 0,2 - 2 ppm
Greece - Occupational Exposure Limits	
OEL TWA	2,2 mg/m³
	1 ppm
Hungary - Occupational Exposure Limits	
AK (OEL TWA)	2,2 mg/m³
OEL chemical category	Carc. 1A - Known Carcinogen
Ireland - Occupational Exposure Limits	
OEL TWA	2,2 mg/m³
	1 ppm
OEL STEL	6,6 mg/m³ (calculated)
	3 ppm (calculated)
Italy - Occupational Exposure Limits	
OEL TWA	2,2 mg/m³
	1 ppm
Latvia - Occupational Exposure Limits	
OEL TWA	2,2 mg/m³
	1 ppm
Lithuania - Occupational Exposure Limits	
IPRV (OEL TWA)	1 mg/m³

1,3-Butadiene (106-99-0)	
	0,5 ppm
TPRV (OEL STEL)	10 mg/m³
	5 ppm
OEL chemical category	Mutagen, Carcinogen
Netherlands - Occupational Exposure Limits	
TGG-8u (OEL TWA)	2 mg/m³
	0,89 ppm
Poland - Occupational Exposure Limits	
NDS (OEL TWA)	2,2 mg/m³
Portugal - Occupational Exposure Limits	
OEL TWA	2,2 mg/m³
	1 ppm
OEL chemical category	A2 - Suspected Human Carcinogen
Romania - Occupational Exposure Limits	
OEL TWA	2,2 mg/m³
	1 ppm
OEL chemical category	C1A
Slovenia - Occupational Exposure Limits	
OEL TWA	2,2 mg/m³
	1 ppm
OEL chemical category	Category 1B, Category 1A
Spain - Occupational Exposure Limits	
VLA-ED (OEL TWA)	2,2 mg/m³ (manufacturing, commercialization and use restrictions according to REACH)
	1 ppm (manufacturing, commercialization and use restrictions according to REACH)
OEL chemical category	C1A, M1B
Spain - Biological limit values	
BLV	2,5 mg/l Parameter: 1,2-Dihydroxy-4-(N-acetylcysteinyl)-butane - Medium: urine - Sampling time: end of shift 2,5 pmol/g hemoglobin Parameter: Mixture of N-1 and N-2-(hydroxybutenyl)valine - Medium: blood - Sampling time: not critical
Sweden - Occupational Exposure Limits	
NGV (OEL TWA)	1 mg/m³
	0,5 ppm
KGV (OEL STEL)	10 mg/m³
	5 ppm
OEL chemical category	Carcinogen

1,3-Butadiene (106-99-0)	
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA)	2,2 mg/m³
	1 ppm
WEL STEL (OEL STEL)	6,6 mg/m³ (calculated)
	3 ppm (calculated)
WEL chemical category	Capable of causing cancer and/or heritable genetic damage
Norway - Occupational Exposure Limits	
Grenseverdi (OEL TWA)	2,2 mg/m³
	1 ppm
Korttidsverdi (OEL STEL)	4,4 mg/m³ (value calculated)
	3 ppm (value calculated)
OEL chemical category	Carcinogen
Switzerland - Occupational Exposure Limits	
MAK (OEL TWA)	4,4 mg/m³
	2 ppm
OEL chemical category	Category C1A carcinogen, Category 1B mutagen
USA - ACGIH - Occupational Exposure Limits	
ACGIH® TLV® TWA	2 ppm
ACGIH chemical category	Suspected Human Carcinogen
USA - ACGIH - Biological Exposure Indices	
BEI	2,5 mg/l Parameter: 1,2-Dihydroxy-4-(N-acetylcysteinyl)-butane - Medium: urine - Sampling time: end of shift (background, semi-quantitative) 2,5 pmol/g hemoglobin Parameter: Mixture of N-1 and N-2-(hydroxybutenyl)valine hemoglobin adducts - Medium: blood - Sampling time: not critical (semi-quantitative)

Petroleum gas; Petroleum gases, liquefied (< 0,1% butadiene) (68476-85-7)	
Belgium - Occupational Exposure Limits	
OEL TWA	1826 mg/m³
	1000 ppm
OEL chemical category	Carcinogen
Croatia - Occupational Exposure Limits	
GVI (OEL TWA)	1750 mg/m³ (applies if not containing >=0.1% 1,3-Butadiene)
	1000 ppm (applies if not containing >=0.1% 1,3-Butadiene)
KGVI (OEL STEL)	2180 mg/m³ (applies if not containing >=0.1% 1,3-Butadiene)
	1250 ppm (applies if not containing >=0.1% 1,3-Butadiene)
OEL chemical category	Carcinogen Category 1A applies if not containing >=0.1% 1,3-Butadiene, Mutagen Category 1B applies if not containing >=0.1% 1,3-Butadiene

Petroleum gas; Petroleum gases, liquefied (< 0,1% butadiene) (68476-85-7)	
Czech Republic - Occupational Exposure Limits	
PEL (OEL TWA)	1800 mg/m³ (in original source under this CAS number Propan-butan (LPG))
Greece - Occupational Exposure Limits	
OEL TWA	2250 mg/m³
	1250 ppm
OEL STEL	2250 mg/m³
	1250 ppm
Portugal - Occupational Exposure Limits	
OEL TWA	1000 ppm
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA)	1750 mg/m³
	1000 ppm
WEL STEL (OEL STEL)	2180 mg/m³
	1250 ppm
WEL chemical category	Capable of causing cancer and/or heritable genetic damage containing >0.1% Buta-1,3-diene
USA - ACGIH - Occupational Exposure Limits	
ACGIH chemical category	Simple asphyxiant See Appendix F: Minimal Oxygen Content

8.1.2. Recommended monitoring procedures

Monitoring methods	
Monitoring methods	Personal air monitoring. Room air monitoring.

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

Additional information : Personal air monitoring. Room air monitoring

8.1.5. Control banding

No additional information available

8.2. Exposure controls

Engineering measure(s) : Closed system. Provide adequate ventilation. Use only in area provided with appropriate exhaust ventilation. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Take precautionary measures against static discharge. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Use only explosion-proof equipment. Organisational measures to prevent/limit releases, dispersion and exposure. See Section 7 for information on safe handling .

Personal protective equipment	:	The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Hand protection	:	Wear suitable gloves. Suitable material: cold insulating gloves (EN 511). Breakthrough time : refer to the recommendations of the supplier. Thickness of the glove material: Not determined. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.
Eye protection	:	During splash contact: Use suitable eye protection (EN166): face shield
Body protection	:	Wear suitable protective clothing. Overalls, apron and boots recommended.
Respiratory protection	:	In case of insufficient ventilation, wear suitable respiratory equipment. full face mask (DIN EN 136). Filter type: ABEK (EN 14387). The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.
Thermal hazard protection	:	cold insulating gloves (EN 511). Not required for normal conditions of use. Use dedicated equipment.
Environmental exposure controls	:	Avoid release to the environment. Comply with applicable Community environmental protection legislation.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Gas
Colour	:	Colourless.
Appearance	:	Press. Gas (Liq.). liquefied gas.
Odour	:	Characteristic.
Odour threshold	:	No data available
Melting / freezing point	:	< -138 °C literature value
Freezing point	:	Not applicable
Initial boiling point and boiling range	:	-165 – -0,5 °C literature value
Flammability	:	Extremely flammable gas.
Explosive properties	:	Not applicable. The study does not need to be conducted because there are no chemical groups associated with explosive properties present in the molecule.
Oxidising properties	:	Not applicable. The classification procedure needs not to be applied because there are no chemical groups present in the molecule which are associated with oxidising properties.
Lower explosion limit	:	1,9 – 5,3 vol % literature value
Upper explosion limit	:	8,5 – 15 vol % literature value
Flash point	:	< -56 °C literature value
Auto-ignition temperature	:	287 – 540 °C literature value
Decomposition temperature	:	No data available
pH	:	Not applicable
Kinematic viscosity	:	No additional information available
Solubility	:	Soluble in organic solvents. Water: 0,024 – 0,061 g/l at 20 °C

Partition coefficient n-octanol/water (Log Kow)	:	≤ 2,8
Vapour pressure	:	≤ 1550 kPa (40°C)
Vapour pressure at 50°C	:	Not available
Density	:	Not applicable
Relative density	:	0,56 g/cm³ (SRPS EN ISO 8973)
Vapour density	:	> 1,5 (Air = 1.0)
Particle characteristics	:	Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

Gas group	:	Compressed gas

SECTION 10: Stability and reactivity

10.1. Reactivity

Extremely flammable gas. Reference to other sections 10.4 & 10.5.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Reacts vigorously with strong oxidizers and acids. Vapours may form explosive mixture with air. Reference to other sections 10.4 & 10.5.

10.4. Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Protect from sunlight. See Section 7 for information on safe handling.

10.5. Incompatible materials

Strong oxidizing agents. See Section 7 for information on safe handling.

10.6. Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. Carbon oxides (CO, CO2). Reference to other sections 5.2.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

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/4h/rat	285 g/m³ (Exposure time: 4h)
LC50/inhalation/4h/rat (ppm)	12800 ppm/4h Gas
LC50 Inhalation - Rat (Vapours)	285 mg/l/4h

Petroleum gas; Petroleum gases, liquefied (< 0,1% butadiene) (68476-85-7)	
LC50/inhalation/4h/rat	658 mg/l

Skin corrosion/irritation : Not classified (Based on available data, the classification criteria are not met)
pH: Not applicable

Serious eye damage/irritation : Not classified (Based on available data, the classification criteria are not met)
pH: Not applicable

Respiratory or skin sensitisation : Not classified (Based on available data, the classification criteria are not met)

Germ cell mutagenicity : Not classified (Based on available data, the classification criteria are not met)

Carcinogenicity : Not classified (Based on available data, the classification criteria are not met)

1,3-Butadiene (106-99-0)	
IARC group	1 - Carcinogenic to humans

Reproductive toxicity : Not classified (Based on available data, the classification criteria are not met)

STOT-single exposure : Not classified (Based on available data, the classification criteria are not met)

STOT-repeated exposure : Not classified (Based on available data, the classification criteria are not met)

Aspiration hazard : Not applicable

LPG – Automotive fuel (68476-85-7)	
Kinematic viscosity	No additional information available

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Adverse health effects caused by endocrine disrupting properties : The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605

11.2.2. Other information

Other information : Symptoms related to the physical, chemical and toxicological characteristics,For further information see section 4

SECTION 12: Ecological information

12.1. Toxicity

Environmental properties : Ecological injuries are not known or expected under normal use.

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

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

1,3-Butadiene (106-99-0)	
EC50 - Other aquatic organisms [1]	24- 33 mg/l Invertebrates.
ErC50 algae	11- 33 mg/l algae

Petroleum gas; Petroleum gases, liquefied (< 0,1% butadiene) (68476-85-7)	
LC50 - Fish [1]	> 24,11 mg/l
EC50 - Crustacea [1]	> 14,22 mg/l
ErC50 algae	> 7,71 mg/l

12.2. Persistence and degradability

LPG – Automotive fuel (68476-85-7)	
Persistence and degradability	Readily biodegradable.

12.3. Bioaccumulative potential

LPG – Automotive fuel (68476-85-7)	
Partition coefficient n-octanol/water (Log Kow)	≤ 2,8
Bioaccumulative potential	No additional information available.

1,3-Butadiene (106-99-0)	
BCF - Fish [1]	13 – 19,1
Partition coefficient n-octanol/water	1,99 (at 25 °C (at pH 7)

Petroleum gas; Petroleum gases, liquefied (< 0,1% butadiene) (68476-85-7)	
Partition coefficient n-octanol/water	≤ 2,8

12.4. Mobility in soil

LPG – Automotive fuel (68476-85-7)	
Mobility in soil	No data available
Ecology - soil	No data available.

12.5. Results of PBT and vPvB assessment

LPG – Automotive fuel (68476-85-7)	
Results of PBT assessment	This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

12.6. Endocrine disrupting properties

Adverse effects on the environment caused by endocrine disrupting properties : The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

12.7. Other adverse effects

Other adverse effects : No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Avoid release to the environment. Dispose of empty containers and wastes safely. See Section 7 for information on safe handling. Refer to manufacturer/supplier for information on recovery/recycling. Recycling is preferred to disposal or incineration. If recycling is not possible, eliminate in accordance with local valid waste disposal regulations. Handle contaminated packages in the same way as the substance itself. Packaging contaminated by the product : Do not pierce or burn, even after use. Never use pressure to empty container.

European waste catalogue (2001/573/EC, 75/442/EEC, 91/689/EEC) : This material and its container must be disposed of as hazardous waste Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities

SECTION 14: Transport information

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

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
1965	1965	1965	1965	1965
14.2. UN proper shipping name				
HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S. (Petroleum gas; Petroleum gases, liquefied (< 0,1% butadiene))	HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S. (Petroleum gas; Petroleum gases, liquefied (< 0,1% butadiene))	Hydrocarbon gas mixture, liquefied, n.o.s. (Petroleum gas; Petroleum gases, liquefied (< 0,1% butadiene))	HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S. (Petroleum gas; Petroleum gases, liquefied (< 0,1% butadiene))	HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S. (Petroleum gas; Petroleum gases, liquefied (< 0,1% butadiene))
Transport document description				
UN 1965 HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S. (Petroleum gas; Petroleum gases, liquefied (< 0,1% butadiene)), 2.1, (B/D)	UN 1965 HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S. (Petroleum gas; Petroleum gases, liquefied (< 0,1% butadiene)), 2.1	UN 1965 Hydrocarbon gas mixture, liquefied, n.o.s. (Petroleum gas; Petroleum gases, liquefied (< 0,1% butadiene)), 2.1	UN 1965 HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S. (Petroleum gas; Petroleum gases, liquefied (< 0,1% butadiene)), 2.1	UN 1965 HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S. (Petroleum gas; Petroleum gases, liquefied (< 0,1% butadiene)), 2.1

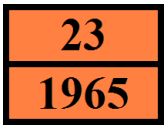
ADR	IMDG	IATA	ADN	RID
14.3. Transport hazard class(es)				
2.1	2.1	2.1	2.1	2.1
				
14.4. Packing group				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards				
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : 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

Special precautions for user : No data available

- Overland transport

Classification code (ADR) : 2F
Special provisions : 274, 392, 583, 652, 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 : B/D
EAC code : 2YE

- Transport by sea

Special provisions (IMDG) : 274, 392
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)	:	Liquefied flammable hydrocarbon gas obtained from natural gas or by distillation of mineral oils or coal, etc. May contain propane, cyclopropane, propylene, butane, butylene, etc., in varying proportions. Heavier than air.

- 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)	:	274, 392, 583, 662, 674
Limited quantities (ADN)	:	0
Excepted quantities (ADN)	:	E0
Carriage permitted (ADN)	:	T
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)	:	274, 392, 583, 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. Maritime transport in bulk according to IMO instruments

Code: IBC : No data available.

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

EU restriction list (REACH Annex XVII)		
Reference code	**Applicable on**	**Entry title or description**
28.	1,3-Butadiene ; Petroleum gas; Petroleum gases, liquefied (< 0,1% butadiene)	Substances which are classified as carcinogen category 1A or 1B in Part 3 of Annex VI to Regulation (EC) No 1272/2008 and are listed in Appendix 1 or Appendix 2, respectively.
29.	1,3-Butadiene ; Petroleum gas; Petroleum gases, liquefied (< 0,1% butadiene)	Substances which are classified as germ cell mutagen category 1A or 1B in Part 3 of Annex VI to Regulation (EC) No 1272/2008 and are listed in Appendix 3 or Appendix 4, respectively.
40.	LPG – Automotive fuel ; 1,3-Butadiene ; Petroleum gas; Petroleum gases, liquefied (< 0,1% butadiene)	Substances classified as flammable gases category 1 or 2, flammable liquids categories 1, 2 or 3, flammable solids category 1 or 2, substances and mixtures which, in contact with water, emit flammable gases, category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids category 1, regardless of whether they appear in Part 3 of Annex VI to Regulation (EC) No 1272/2008 or not.

REACH Annex XIV (Authorisation List)

Not listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Not listed on the PIC list (Regulation EU 649/2012)

POP Regulation (Persistent Organic Pollutants)

Not listed on the POP list (Regulation EU 2019/1021)

Ozone Regulation (2024/590)

Not listed on the Ozone Depletion list (Regulation EU 2024/590)

Council Regulation (EC) for the control of dual-use items

Contains no substance subject to the COUNCIL REGULATION (EC) for the control of dual-use items

Explosives Precursors Regulation (EU 2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (EC 273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

Detergent Regulation (648/2004/EC): Labelling of contents

Labelling for contents according to regulation (EC) No. 648/2004 : Not applicable

15.1.2. National regulations

France

Occupational diseases			
Code	Description		
RG 99	Hemic diseases caused by 1,3-butadiene and all products containing it		
Installations classées			
No ICPE	Désignation de la rubrique	Code Régime	Rayon
4718.text	Gaz inflammables liquéfiés de catégorie 1 et 2 (y compris GPL) et gaz naturel (y compris biogaz affiné, lorsqu'il a été traité conformément aux normes applicables en matière de biogaz purifié et affiné, en assurant une qualité équivalente à celle du gaz naturel, y compris pour ce qui est de la teneur en méthane, et qu'il a une teneur maximale de 1 % en oxygène). La quantité totale susceptible d'être présente dans les installations y compris dans les cavités souterraines (strates naturelles, aquifères, cavités salines et mines désaffectées) étant :		
4718.1	1. Supérieure ou égale à 50 t Quantité seuil bas au sens de l'article R. 511-10 : 50 t. Quantité seuil haut au sens de l'article R. 511-10 : 200 t.	A	1
4718.2	2. Supérieure ou égale à 6 t mais inférieure à 50 t Quantité seuil bas au sens de l'article R. 511-10 : 50 t. Quantité seuil haut au sens de l'article R. 511-10 : 200 t.	DC	1

Germany

Water hazard class (WGK) : WGK 1, Slightly hazardous to water.
Major Accidents Ordinance (12. BImSchV) : Listed in the 12. BImSchV (Annex I) under: 2.1
- Quantity threshold for operational area under § 1 para. 1
  - Sentence 1 :50000 kg
  - Sentence 2 :200000 kg

Netherlands

Waterbezwaarlijkheid : B (5) - Weinig schadelijk voor in het water levende organismen
SZW-lijst van kankerverwekkende stoffen : LPG – Automotive fuel is listed
SZW-lijst van mutagene stoffen : LPG – Automotive fuel is listed
SZW-lijst van reprotoxische stoffen – Borstvoeding : The substance is not listed
SZW-lijst van reprotoxische stoffen – Vruchtbaarheid : The substance is not listed

SZW-lijst van reprotoxische stoffen – Ontwikkeling : The substance is not listed

Denmark

Class for fire hazard : Class I-1
Store unit : 1 liter
Classification remarks : F+ <Flam. Gas 1A; Press. Gas (Liq.)>; Emergency management guidelines for the storage of flammable liquids must be followed
Danish National Regulations : Young people below the age of 18 years are not allowed to use the product
The requirements from the Danish Working Environment Authorities regarding work with carcinogens must be followed during use and disposal

15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out

SECTION 16: Other information

Indication of changes:

1.3	Details of the supplier of the safety data sheet	Modified	
16	Other information	Added	

Abbreviations and acronyms:

	DNEL = Derived No Effect Level
	DMEL = Derived Minimal Effect level
	PNEC = Predicted No Effect Concentration
	OEL-STEL = Occupational Exposure Limits - Short Term Exposure Limits (STELs)
	TWA = time weighted average
	LC50 = Median lethal concentration
	LD50 = Median lethal dose
	LL50 = Median lethal level
	EC50 = Median Effective Concentration
	EL50 = Median effective level
	ErC50 = EC50 in terms of reduction of growth rate
	ErL50 = EL50 in terms of reduction of growth rate
	NOEL = no-observed-effect level
	NOEC = No observed effect concentration
	NOELR = No observed effect loading rate
	NOAEC = No observed adverse effect concentration
	NOAEL = No observed adverse effect level
	EWC = European waste catalogue
	NA = Not applicable
	N.O.S. = Not Otherwise Specified
	VOC = Volatile organic compounds
	mg/kg BW = mg/kg bodyweight
	QSAR = Quantitative structure-activity relationship (QSAR)
	ADN = Accord Européen relatif au Transport International des Marchandises Dangereuses par voie de Navigation du Rhin ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route CLP = Classification, Labelling and Packaging Regulation according to 1272/2008/EC IATA = International Air Transport Association IMDG = International Maritime Dangerous Goods Code LEL = Lower Explosive Limit/Lower Explosion Limit UEL = Upper Explosion Limit/Upper Explosive Limit REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals
	WGK = Wassergefährdungsklasse (Water Hazard Class under German Federal Water Management Act)

	ABM = Algemene beoordelingsmethodiek
	BTT = Breakthrough time (maximum wearing time)
	NOEL: no-observed-effect level
	STOT = Specific Target Organ Toxicity

Sources of key data used to compile the datasheet : ECHA (European Chemicals Agency). CSR = Chemical Safety Report. Supplier information.

Training advice : Training staff on good practice. Manipulations are to be done only by qualified and authorised persons.

Other information : Hazard classification and labeling of petroleum substances in the European Economic Area, Concawe – 2025 (http://www.concawe.eu).

Full text of H- and EUH-statements:

Carc. 1A	Carcinogenicity, Category 1A
Flam. Gas 1A	Flammable gases, Category 1A
Muta. 1B	Germ cell mutagenicity, Category 1B
Press. Gas (Liq.)	Gases under pressure : Liquefied gas
H220	Extremely flammable gas.
H280	Contains gas under pressure; may explode if heated.
H340	May cause genetic defects.
H350	May cause cancer.

According to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878
Classification according to Regulation (EC) No. 1272/2008 [CLP]
Labelling according to Regulation (EC) No. 1272/2008 [CLP]