	<b>SAFETY DATA SHEET</b>	Page : 1 / 14
		Revision nr : 2.0
	<b>LPG – Automotive fuel</b>	Issue date : 05/10/2015
		Supersedes : 20/08/2014

## 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  
Chemical name : liquefied petroleum gases  
EC Index : 649-202-00-6  
EC No : 270-704-2  
CAS No. : 68476-85-7  
REACH registration No : 01-2119485911-31-0009  
Product group : Trade product

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

#### 1.2.1. Relevant identified uses

Use of the substance/mixture : Fuels  
Propellant  
Blowing agent  
Intermediate, functional monomer  
Formulation  
Distribution

#### 1.2.2. Uses advised against

No data 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  
[Dragana.Cvetkov@nis.rs](mailto:Dragana.Cvetkov@nis.rs) (SDS/REACH)

#### Only Representative

REACHLaw Ltd.  
Vänrikinkuja 3 JK 21  
02600 Espoo  
T +358(0) 9 412 3055 - F +358 (0) 9 412 3049  
[sds@reachlaw.fi](mailto:sds@reachlaw.fi)

### 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	Official advisory body	Address	Emergency number
IRELAND (REPUBLIC OF)	National Poisons Information Centre Beaumont Hospital	Beaumont Hospital Beaumont Road 9 Dublin	+353 18 37 99 64/+353 1 809 21 66
UNITED KINGDOM	National Poisons Information Service (Newcastle Centre) Regional Drugs and Therapeutics Centre, Wolfson Unit	Claremont Place Newcastle-upon-Tyne NE1 4LP Newcastle	0844 892 0111 (UK only, Monday to Friday, 08.00 to 18.00 hours, healthcare professionals only)

## SECTION 2: Hazards identification


### 2.1. Classification of the substance or mixture

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

Flam. Gas 1 H220

Compressed gas H280

Full text of H-statements: see section 16

	<b>SAFETY DATA SHEET</b>	Page : 2 / 14
		Revision nr : 2.0
	<b>LPG – Automotive fuel</b>	Issue date : 05/10/2015
		Supersedes : 20/08/2014

## 2.2. Label elements

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

Hazard pictograms :



GHS02

Signal word :

Danger

Hazard statements :

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

Precautionary statements :

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 - Eliminate all ignition sources if safe to do so.  
P403 - Store in a well-ventilated place.  
P410+P403 - Protect from sunlight. Store in a well-ventilated place.

Listed in Annex VI :

EC index no : 649-202-00-6

## 2.3. Other hazards

Other hazards :

PBT/vPvB data. This substance is not considered to be persistent, bioaccumulating nor toxic (PBT). This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

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 1, H220 Liquefied gas, H280
1,3-Butadiene	(CAS No.) 106-99-0 (EC No) 203-450-8 (EC Index) 601-013-00-X	< 0,1	Flam. Gas 1, H220 Press. Gas Muta. 1B, H340 Carc. 1A, H350

Full text of H-statements: see section 16

### 3.2. Mixture


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 or a person with cramps. Treat symptomatically. Give oxygen or artificial respiration as needed.

	<b>SAFETY DATA SHEET</b>	Page : 3 / 14
		Revision nr : 2.0
	<b>LPG – Automotive fuel</b>	Issue date : 05/10/2015
		Supersedes : 20/08/2014

- Inhalation : Keep at rest. If breathing is irregular or stopped, administer artificial respiration. Remove person to fresh air and keep comfortable for breathing. In case of doubt or persistent symptoms, consult always a physician.
- Skin contact : In case of frostbite, wash with plenty of water; do not remove clothing. Wash contaminated clothing before reuse. Get medical advice/attention. Take off contaminated clothing. Gently wash with plenty of soap and water. In case of doubt or persistent symptoms, consult always a physician.
- Eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. In case of doubt or persistent symptoms, consult always a physician.
- In case of 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.
- Eye contact : May be irritating. The following symptoms may occur: Can cause frostbite.
- Ingestion : Ingestion unlikely. No data available.

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

Not applicable.

**SECTION 5: Firefighting measures**

**5.1. Extinguishing media**

- Suitable extinguishing media : Carbon dioxide. Dry extinguishing powder. carbon dioxide (CO<sub>2</sub>), powder, alcohol-resistant foam, hazy water.
- Unsuitable extinguishing media : Strong water jet.

**5.2. Special hazards arising from the substance or mixture**

- Specific hazards : Vapours can form explosive mixtures with air. Vapours are heavier than air and may spread along floors. Vapours can travel considerable distances to a source of ignition where they can ignite, flash back, or explode. Heating causes rise in pressure with risk of bursting. Container may explode if heated. Hazardous decomposition products CO<sub>x</sub>. Extremely flammable gas. Heating may cause an explosion.

**5.3. Advice for firefighters**


- Firefighting instructions : Special protective equipment for firefighters. . In case of fire: Wear self-contained breathing apparatus. Use water spray or fog for cooling exposed containers. Evacuate personnel to a safe area. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Evacuate area. Use water spray or fog for cooling exposed containers. Contain the extinguishing fluids by bunding. Prevent fire-fighting water from entering 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. Use personal protective equipment as required. Concerning personal protective equipment to use, see section 8. Avoid contact with skin, eyes and clothing. Do not breathe gas. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ensure equipment is adequately grounded. Use explosion-proof machinery, apparatus, ventilation facilities, tools etc. Use only non-sparking tools.

	<b>SAFETY DATA SHEET</b>	Page : 4 / 14
		Revision nr : 2.0
<b>LPG – Automotive fuel</b>		Issue date : 05/10/2015
		Supersedes : 20/08/2014

### 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. 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 to vapourize. Hose down gases, fumes and/or dust with water. All processes must be supervised by specialists or authorised personnel. Stop leak if safe to do so. Leave to vapourize. 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. Disposal: 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. Use personal protective equipment as required. Concerning personal protective equipment to use, see section 8. Do not breathe gas. Avoid contact with skin, eyes and clothing. Keep away from heat and direct sunlight. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly 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 : Wash hands and face before breaks and immediately after handling of the product. Take off contaminated clothing. 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

Technical measures : Gases under pressure. Keep container tightly closed in a cool, well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not store near or with any of the incompatible materials listed in section 10.

Storage conditions : Store in a dry, cool and well-ventilated place. Do not store near or with any of the incompatible materials listed in section 10.

Packaging materials : Keep/Store only in original container.

### 7.3. Specific end use(s)

see attached exposure scenario.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

1,3-Butadiene (106-99-0)		
Austria	TEL TRK (mg/m <sup>3</sup> )	34 mg/m <sup>3</sup> (reconditioning after polymerization, loading) 11 mg/m <sup>3</sup> (all others)
Austria	TEL TRK (ppm)	15 ppm (reconditioning after polymerization, loading) 5 ppm (all others)
Belgium	Limit value (mg/m <sup>3</sup> )	4,5 mg/m <sup>3</sup>



# SAFETY DATA SHEET

Page : 5 / 14

Revision nr : 2.0

Issue date : 05/10/2015

## LPG – Automotive fuel

Supersedes : 20/08/2014

### 1,3-Butadiene (106-99-0)

Belgium	Limit value (ppm)	2 ppm
Bulgaria	OEL TWA (mg/m <sup>3</sup> )	50 mg/m <sup>3</sup>
Bulgaria	OEL STEL (mg/m <sup>3</sup> )	100 mg/m <sup>3</sup>
Croatia	GVI (granična vrijednost izloženosti) (mg/m <sup>3</sup> )	22 mg/m <sup>3</sup>
Croatia	GVI (granična vrijednost izloženosti) (ppm)	10 ppm
Czech Republic	Expoziční limity (PEL) (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Denmark	Grænseværdie (langvarig) (mg/m <sup>3</sup> )	22 mg/m <sup>3</sup>
Denmark	Grænseværdie (langvarig) (ppm)	10 ppm
Estonia	OEL TWA (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup>
Estonia	OEL TWA (ppm)	0,5 ppm
Estonia	OEL STEL (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Estonia	OEL STEL (ppm)	5 ppm
Finland	HTP-arvo (8h) (mg/m <sup>3</sup> )	2,2 mg/m <sup>3</sup>
Finland	HTP-arvo (8h) (ppm)	1 ppm
Greece	OEL TWA (mg/m <sup>3</sup> )	22 mg/m <sup>3</sup>
Greece	OEL TWA (ppm)	10 ppm
Hungary	MK-érték	1 mg/m <sup>3</sup>
Ireland	OEL (8 hours ref) (mg/m <sup>3</sup> )	2,2 mg/m <sup>3</sup>
Ireland	OEL (8 hours ref) (ppm)	1 ppm
Ireland	OEL (15 min ref) (mg/m <sup>3</sup> )	6,6 mg/m <sup>3</sup> (calculated)
Ireland	OEL (15 min ref) (ppm)	3 ppm (calculated)
Latvia	OEL TWA (mg/m <sup>3</sup> )	100 mg/m <sup>3</sup>
Lithuania	IPRV (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup>
Lithuania	IPRV (ppm)	0,5 ppm
Lithuania	TPRV (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Lithuania	TPRV (ppm)	5 ppm
Netherlands	Grenswaarde TGG 8H (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
Poland	NDS (mg/m <sup>3</sup> )	4,4 mg/m <sup>3</sup>
Portugal	OEL TWA (ppm)	2 ppm
Romania	OEL TWA (mg/m <sup>3</sup> )	22 mg/m <sup>3</sup>
Romania	OEL TWA (ppm)	10 ppm
Slovenia	OEL TWA (mg/m <sup>3</sup> )	34 mg/m <sup>3</sup> 11 mg/m <sup>3</sup> (other)
Slovenia	OEL TWA (ppm)	15 ppm 5 ppm (other)
Slovenia	OEL STEL (mg/m <sup>3</sup> )	136 mg/m <sup>3</sup> (polymerization processing, loading) 44 mg/m <sup>3</sup> (other)
Slovenia	OEL STEL (ppm)	60 ppm (polymerization processing, loading) 20 ppm (other)
Spain	VLA-ED (mg/m <sup>3</sup> )	4,5 mg/m <sup>3</sup> (manufacturing, commercialization, and use restrictions under REACH)
Spain	VLA-ED (ppm)	2 ppm (manufacturing, commercialization, and use restrictions under REACH)
Sweden	nivågränsvärde (NVG) (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup>



# SAFETY DATA SHEET

Page : 6 / 14

Revision nr : 2.0

Issue date : 05/10/2015

## LPG – Automotive fuel


Supersedes : 20/08/2014

### 1,3-Butadiene (106-99-0)

Sweden	nivågränsvärde (NVG) (ppm)	0,5 ppm
Sweden	kortidsvärde (KTV) (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup>
Sweden	kortidsvärde (KTV) (ppm)	5 ppm
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	22 mg/m <sup>3</sup>
United Kingdom	WEL TWA (ppm)	10 ppm
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	66 mg/m <sup>3</sup> (calculated)
United Kingdom	WEL STEL (ppm)	30 ppm (calculated)
Norway	Grenseverdier (AN) (mg/m <sup>3</sup> )	2,2 mg/m <sup>3</sup>
Norway	Grenseverdier (AN) (ppm)	1 ppm
Norway	Grenseverdier (Korttidsverdi) (mg/m <sup>3</sup> )	2,2 mg/m <sup>3</sup>
Norway	Grenseverdier (Korttidsverdi) (ppm)	1 ppm
Switzerland	VME (mg/m <sup>3</sup> )	11 mg/m <sup>3</sup>
Switzerland	VME (ppm)	5 ppm
Australia	TWA (mg/m <sup>3</sup> )	22 mg/m <sup>3</sup>
Australia	TWA (ppm)	10 ppm
Canada (Quebec)	VEMP (mg/m <sup>3</sup> )	4,4 mg/m <sup>3</sup>
Canada (Quebec)	VEMP (ppm)	2 ppm
USA - ACGIH	ACGIH TWA (ppm)	2 ppm
USA - IDLH	US IDLH (ppm)	2000 ppm (10% LEL)
USA - OSHA	OSHA PEL (TWA) (ppm)	1 ppm
USA - OSHA	OSHA PEL (STEL) (ppm)	5 ppm (see 29 CFR 1910.1051)

### Petroleum gas; Petroleum gases, liquefied (< 0,1% butadiene) (68476-85-7)

Belgium	Limit value (mg/m <sup>3</sup> )	1826 mg/m <sup>3</sup>
Belgium	Limit value (ppm)	1000 ppm
Croatia	GVI (granična vrijednost izloženosti) (mg/m <sup>3</sup> )	1750 mg/m <sup>3</sup> (containing <0.1% 1,3-Butadiene)
Croatia	GVI (granična vrijednost izloženosti) (ppm)	1000 ppm (containing <0.1% 1,3-Butadiene)
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (mg/m <sup>3</sup> )	2180 mg/m <sup>3</sup> (containing >0.1% 1,3-Butadiene)
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (ppm)	1250 ppm (containing >0.1% 1,3-Butadiene)
Czech Republic	Expoziční limity (PEL) (mg/m <sup>3</sup> )	1800 mg/m <sup>3</sup>
Greece	OEL TWA (mg/m <sup>3</sup> )	2250 mg/m <sup>3</sup>
Greece	OEL TWA (ppm)	1250 ppm
Greece	OEL STEL (mg/m <sup>3</sup> )	2250 mg/m <sup>3</sup>
Greece	OEL STEL (ppm)	1250 ppm
Ireland	OEL (8 hours ref) (mg/m <sup>3</sup> )	1800 mg/m <sup>3</sup>
Ireland	OEL (8 hours ref) (ppm)	1000 ppm
Ireland	OEL (15 min ref) (mg/m <sup>3</sup> )	2250 mg/m <sup>3</sup>
Ireland	OEL (15 min ref) (ppm)	1250 ppm
Portugal	OEL TWA (ppm)	1000 ppm
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	1750 mg/m <sup>3</sup>
United Kingdom	WEL TWA (ppm)	1000 ppm
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	2180 mg/m <sup>3</sup>
United Kingdom	WEL STEL (ppm)	1250 ppm
Australia	TWA (mg/m <sup>3</sup> )	1800 mg/m <sup>3</sup>
Australia	TWA (ppm)	1000 ppm

	<b>SAFETY DATA SHEET</b>	Page : 7 / 14
		Revision nr : 2.0
	<b>LPG – Automotive fuel</b>	Issue date : 05/10/2015
		Supersedes : 20/08/2014

Petroleum gas; Petroleum gases, liquefied (< 0,1% butadiene) (68476-85-7)		
Canada (Quebec)	VEMP (mg/m <sup>3</sup> )	1800 mg/m <sup>3</sup>
Canada (Quebec)	VEMP (ppm)	1000 ppm
USA - IDLH	US IDLH (ppm)	2000 ppm
USA - NIOSH	NIOSH REL (TWA) (mg/m <sup>3</sup> )	1800 mg/m <sup>3</sup>
USA - NIOSH	NIOSH REL (TWA) (ppm)	1000 ppm
USA - OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	1800 mg/m <sup>3</sup>
USA - OSHA	OSHA PEL (TWA) (ppm)	1000 ppm

Additional information : Personal air monitoring. Room air monitoring


### **8.2. Exposure controls**

Engineering control measures	: 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 also section 7. Provide adequate ventilation. Safe handling: see section 7 .
Personal protection 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	: The selection of specific gloves for a specific application and time of use in a working area, should also take into account other factors on the working space, such as (but not limited to): other chemicals that are possibly used, physical requirements (protection against cutting/drilling, skill, thermal protection), and the instructions/specification of the supplier of gloves. (EN511). Wear chemically resistant gloves (tested to EN374) . Suitable material: 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: Face protection shield (EN166). Use suitable eye protection. (EN166):
Body protection	: Overalls, apron and boots recommended. Wear suitable protective clothing.
Respiratory protection	: In case of insufficient ventilation, wear suitable respiratory equipment. Full face mask (EN 136). Filter type: 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	: Protective gloves against cold (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
Appearance	: Gas.
Colour	: Colourless.
Odour	: characteristic.
Odour threshold	: No data available
pH	: Not applicable
Relative evaporation rate (butylacetate=1)	: No data available

	<b>SAFETY DATA SHEET</b>	Page : 8 / 14
		Revision nr : 2.0
	<b>LPG – Automotive fuel</b>	Issue date : 05/10/2015
		Supersedes : 20/08/2014

Melting point/freezing point	: < -138 °C literature value
Freezing point	: No data available
Initial boiling point and boiling range	: -165 - -0,5 °C literature value
Flash point	: < -56 °C literature value
Auto-ignition temperature	: 287 - 540 °C literature value
Decomposition temperature	: No data available
Flammability (solid, gas)	: Extremely flammable, Extremely flammable gas
Vapour pressure	: =< 1550 kPa (40°C)
Vapour density	: > 1,5 (Air = 1.0)
Relative density	: 0,56 g/cm <sup>3</sup> (SRPS EN ISO 8973)
Solubility	: Soluble in organic solvents. Water: 0,024 - 0,061 g/l at 20 °C
Partition coefficient n-octanol/water	: =< 2,8
Kinematic viscosity	: No data available
Dynamic viscosity	: No data available
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.
Explosive limits	: 1,9 - 5,3 vol % literature value 8,5 - 15 vol % literature value

## **9.2. Other information**

Gas group : Compressed gas

## **SECTION 10: Stability and reactivity**

### **10.1. Reactivity**

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

### **10.2. Chemical stability**

The product is stable under storage at normal ambient temperatures. Stable under normal conditions.

### **10.3. Possibility of hazardous reactions**

Reacts vigorously with strong oxidizers and acids. Vapours can form explosive mixtures with air. Reference to other sections: 10.4 & 10.5. No dangerous reactions known under normal conditions of use.

### **10.4. Conditions to avoid**

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep away from heat. Safe handling: see section 7. See also section 7.

### **10.5. Incompatible materials**

Strong oxidizing agents. See also section 7. Safe handling: see section 7. Oxidising substances.

### **10.6. Hazardous decomposition products**

Hazardous decomposition products formed under fire conditions. Reference to other sections: 5.2.


## **SECTION 11: Toxicological information**

### **11.1. Information on toxicological effects**

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

<b>1,3-Butadiene (106-99-0)</b>	
LD50/oral/rat	5480 mg/kg
LC50/inhalation/4h/rat	285 g/m <sup>3</sup> (Exposure time: 4 h)
LC50/inhalation/4h/rat (ppm)	12800 ppm/4h Gas
LC50 inhalation rat (Vapours - mg/l/4h)	285 mg/l/4h



	<b>SAFETY DATA SHEET</b>	Page : 9 / 14
		Revision nr : 2.0
	<b>LPG – Automotive fuel</b>	Issue date : 05/10/2015
		Supersedes : 20/08/2014

<b>Petroleum gas; Petroleum gases, liquefied (&lt; 0,1% butadiene) (68476-85-7)</b>	
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/eye 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.)
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 classified (Based on available data, the classification criteria are not met.)
Other information	: Symptoms related to the physical, chemical and toxicological characteristics. Reference to other sections: 4.2. 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. According to the criteria of the European classification and labelling system, the substance/the product has not to be labelled as "dangerous for the environment".

<b>1,3-Butadiene (106-99-0)</b>	
EC50 other aquatic organisms 1	24- 33 mg/l Invertebrates.
ErC50 (algae)	11- 33 mg/l algae
<b>Petroleum gas; Petroleum gases, liquefied (&lt; 0,1% butadiene) (68476-85-7)</b>	
LC50 fish 1	> 24,11 mg/l
EC50 Daphnia 1	> 14,22 mg/l
ErC50 (algae)	> 7,71 mg/l

### **12.2. Persistence and degradability**


<b>LPG – Automotive fuel (68476-85-7)</b>	
Persistence and degradability	Readily biodegradable. No data available.

### **12.3. Bioaccumulative potential**

<b>LPG – Automotive fuel (68476-85-7)</b>	
Partition coefficient n-octanol/water	=< 2,8
Bioaccumulative potential	No data available.
<b>1,3-Butadiene (106-99-0)</b>	
BCF fish 1	13 - 19,1
Partition coefficient n-octanol/water	1,85 (at 23 °C)
<b>Petroleum gas; Petroleum gases, liquefied (&lt; 0,1% butadiene) (68476-85-7)</b>	
Partition coefficient n-octanol/water	<= 2,8

### **12.4. Mobility in soil**

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

	<b>SAFETY DATA SHEET</b>	Page : 10 / 14
		Revision nr : 2.0
	<b>LPG – Automotive fuel</b>	Issue date : 05/10/2015
		Supersedes : 20/08/2014

**12.5. Results of PBT and vPvB assessment**

<b>LPG – Automotive fuel (68476-85-7)</b>	
Results of PBT assessment	No data available

**12.6. Other adverse effects**

Other adverse effects : No data available.

**SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**






Waste disposal recommendations : Collect and dispose of waste product at an authorised disposal facility. Dispose of contaminated materials in accordance with current regulations. Avoid release to the environment. Dispose of empty containers and wastes safely. Safe handling: see section 7. 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.


Additional information : Never use pressure to empty container. Do not burn, or use a cutting torch on, the empty drum. Do not puncture or incinerate. Delivery to an approved waste disposal company. Dispose of contaminated materials in accordance with current regulations.

List of proposed waste codes/waste designations in accordance with EWC (2001/573/EC, 75/442/EEC, 91/689/EEC) : Classified as hazardous waste according to European Union regulations. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities. 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
<b>14.1. UN number</b>				
1965	1965	1965	1965	1965
<b>14.2. UN proper shipping name</b>				
HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S.	HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S.	Hydrocarbon gas mixture, liquefied, n.o.s.	HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S.	HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S.
<b>Transport document description</b>				
UN 1965 HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S., 2.1, (B/D)	UN 1965 HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S., 2.1			
<b>14.3. Transport hazard class(es)</b>				
2.1	2.1	2.1	2.1	2.1
				
<b>14.4. Packing group</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.5. Environmental hazards</b>				
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

	<b>SAFETY DATA SHEET</b>	Page : 11 / 14
		Revision nr : 2.0
	<b>LPG – Automotive fuel</b>	Issue date : 05/10/2015
		Supersedes : 20/08/2014

ADR	IMDG	IATA	ADN	RID
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, 583, 652, 660  
 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  
 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 segregation (IMDG) : Clear of living quarters.  
 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

	<b>SAFETY DATA SHEET</b>	Page : 12 / 14
		Revision nr : 2.0
	<b>LPG – Automotive fuel</b>	Issue date : 05/10/2015
		Supersedes : 20/08/2014

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, 583, 66  
 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  
 Carriage prohibited (ADN) : No  
 Not subject to ADN : No

**- Rail transport**

Classification code (RID) : 2F  
 Special provisions (RID) : 274, 583, 660  
 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  
 Carriage prohibited (RID) : No

**14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

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**

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

28. Substances which appear in Part 3 of Annex VI to Regulation (EC) No 1272/2008 classified as Carcinogen category 1A or 1B (Table 3.1) or Carcinogen category 1 or 2 (Table 3.2) and listed as follows: Carcinogen category 1A (Table 3.1)/Carcinogen category 1 (Table 3.2) listed in Appendix 1 Carcinogen category 1B (Table 3.1)/Carcinogen category 2 (Table 3.2) listed in Appendix 2	1,3-Butadiene
29. Substances which appear in Part 3 of Annex VI to Regulation (EC) No 1272/2008 classified as Germ cell Mutagen category 1A or 1B (Table 3.1) or Mutagen category 1 or 2 (Table 3.2) and listed as follows: Mutagen category 1A (Table 3.1)/Mutagen category 1 (Table 3.2) listed in Appendix 3 Mutagen category 1B (Table 3.1)/Mutagen category 2 (Table 3.2) listed in Appendix 4	1,3-Butadiene

LPG – Automotive fuel is not on the REACH Candidate List

	<b>SAFETY DATA SHEET</b>	Page : 13 / 14
		Revision nr : 2.0
	<b>LPG – Automotive fuel</b>	Issue date : 05/10/2015
		Supersedes : 20/08/2014

Contains no substance on the REACH candidate list  
LPG – Automotive fuel is not on the REACH Annex XIV List  
Contains no REACH Annex XIV substances

### 15.1.2. National regulations

#### Germany

German storage class (LGK) : LGK 2A - Gases  
12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

#### Netherlands

SZW-lijst van kankerverwekkende stoffen : LPG – Automotive fuel is listed  
SZW-lijst van mutagene stoffen : LPG – Automotive fuel is listed  
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed  
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed  
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

#### Denmark

Class for fire hazard : Class I-1  
Store unit : 1 liter  
Classification remarks : F+ <Flam. Gas 1; Compressed gas>; Emergency management guidelines for the storage of flammable liquids must be followed  
Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product


### 15.2. Chemical safety assessment

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

## SECTION 16: Other information

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

	<b>SAFETY DATA SHEET</b>	Page : 14 / 14
		Revision nr : 2.0
	<b>LPG – Automotive fuel</b>	Issue date : 05/10/2015
		Supersedes : 20/08/2014

	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 : European Chemicals Bureau SDS provided by supplier.

Full text of H- and EUH-statements:

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

The contents and format of this SDS are in accordance with EEC Commission Directive 1999/45/EC, 67/548/EC, 1272/2008/EC and EEC Commission Regulation 1907/2006/EC (REACH) Annex II.

**DISCLAIMER OF LIABILITY** The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.