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

### 1.1. Product identifier

Trade name : Gasol  
SDS no : NOAL\_1044  
UFI: 1NV2-R0GS-200Q-6D54

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

Relevant identified uses : Industrial and professional uses. Perform risk assessment prior to use.  
Industrial and professional use for chemical analysis, calibration, (routine) quality control, laboratory use, under controlled conditions.  
Contact supplier for more information on uses.

Uses advised against : Consumer use.  
Uses other than those listed above are not supported, contact your supplier for more information on other uses.

### 1.3. Details of the supplier of the safety data sheet

#### Company identification

##### Supplier

AIR LIQUIDE GAS AB  
Pulpetgatan 20  
215 37 Malmö - SWEDEN  
T +46 40 38 10 00  
[info.sweden@airliquide.com](mailto:info.sweden@airliquide.com)

E-Mail address (competent person) : eunordic-sds@airliquide.com

### 1.4. Emergency telephone number

Emergency telephone number : 112  
Availability  
(24 / 7)


Country	Organisation/Company	Address	Emergency number	Comment
Germany	Giftnotruf Erfurt Gemeinsames Giftinformationszentrum der Länder Mecklenburg-Vorpommern, Sachsen, Sachsen-Anhalt und Thüringen, c/o HELIOS Klinikum Erfurt	Nordhäuser Straße 74 99089 Erfurt	+49 (0) 361 730 730	

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

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

Physical hazards      Flammable gases, Category 1A      H220  
Gases under pressure : Liquefied gas      H280

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## 2.2. Label elements

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

Hazard pictograms (CLP) :



GHS02

GHS04

Signal word (CLP) :

Danger

Hazard statements (CLP) :

H220 - Extremely flammable gas.

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

Precautionary statements (CLP)

- Prevention :

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

- Response :

P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.

P381 - In case of leakage, eliminate all ignition sources.

- Storage :

P403 - Store in a well-ventilated place.

## 2.3. Other hazards

Contact with liquid may cause cold burns/frostbite.

Not classified as PBT or vPvB.

The substance/mixture has no endocrine disrupting properties.

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not established.

### 3.2. Mixtures

Name	Product identifier	Composition [V-%]:	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Propane	CAS-No.: 74-98-6 EC-No.: 200-827-9 EC Index-No.: 601-003-00-5 REACH-no: 01-2119486944-21	95	Flam. Gas 1A, H220 Press. Gas (Liq.), H280
Butane	CAS-No.: 106-97-8 EC-No.: 203-448-7 EC Index-No.: 601-004-00-0 REACH-no: 01-2119474691-32	5	Flam. Gas 1A, H220 Press. Gas (Liq.), H280

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


Contains no other components or impurities which will influence the classification of the product.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

- Inhalation :

Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Perform cardiopulmonary resuscitation if breathing stopped.

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- Skin contact : In case of frostbite spray with water for at least 15 minutes. Apply a sterile dressing. Obtain medical assistance.
- Eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes.
- Ingestion : Ingestion is not considered a potential route of exposure.

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

See section 11.

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

None.

**SECTION 5: Firefighting measures**

**5.1. Extinguishing media**

- Suitable extinguishing media : Water spray or fog.
- Unsuitable extinguishing media : Carbon dioxide.  
Do not use water jet to extinguish.

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

- Specific hazards : Exposure to fire may cause containers to rupture/explode.
- Hazardous combustion products : Carbon monoxide.

**5.3. Advice for firefighters**

- Specific methods : Use fire control measures appropriate for the surrounding fire. Exposure to fire and heat radiation may cause gas receptacles to rupture. Cool endangered receptacles with water spray jet from a protected position. Prevent water used in emergency cases from entering sewers and drainage systems.  
If possible, stop flow of product.  
Use water spray or fog to knock down fire fumes if possible.  
Do not extinguish a leaking gas flame unless absolutely necessary. Spontaneous/explosive re-ignition may occur. Extinguish any other fire.  
Move containers away from the fire area if this can be done without risk.
- Special protective equipment for fire fighters : In confined space use self-contained breathing apparatus.  
Standard protective clothing and equipment (Self Contained Breathing Apparatus) for fire fighters.  
Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask.  
Standard EN 469 - Protective clothing for firefighters. Standard - EN 659: Protective gloves for firefighters.


**SECTION 6: Accidental release measures**

**6.1. Personal precautions, protective equipment and emergency procedures**

- For non-emergency personnel : Act in accordance with local emergency plan.  
Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.  
Stay upwind.  
See section 8 of the SDS for more information on personal protective equipment
- For emergency responders : See section 5.3 of the SDS for more information.

**6.2. Environmental precautions**

Try to stop release.

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### 6.3. Methods and material for containment and cleaning up

Ventilate area.

### 6.4. Reference to other sections

See also sections 8 and 13.

## **SECTION 7: Handling and storage**


### 7.1. Precautions for safe handling

Safe use of the product

- : Do not breathe gas.
- Avoid release of product into atmosphere.
- The product must be handled in accordance with good industrial hygiene and safety procedures.
- Only experienced and properly instructed persons should handle gases under pressure.
- Consider pressure relief device(s) in gas installations.
- Ensure the complete gas system was (or is regularly) checked for leaks before use.
- Do not smoke while handling product.
- Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt.
- Avoid suck back of water, acid and alkalis.
- Assess the risk of potentially explosive atmospheres and the need for explosion-proof equipment.
- Purge air from system before introducing gas.
- Take precautionary measures against static discharge.
- Keep away from ignition sources (including static discharges).
- Consider the use of only non-sparking tools.
- Ensure equipment is adequately earthed.

Safe handling of the gas receptacle

- : Refer to supplier's container handling instructions.
- Do not allow backfeed into the container.
- Protect containers from physical damage; do not drag, roll, slide or drop.
- When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders.
- Leave valve protection caps in place until the container has been secured against either a wall or bench or placed in a container stand and is ready for use.
- If user experiences any difficulty operating valve discontinue use and contact supplier.
- Never attempt to repair or modify container valves or safety relief devices.
- Damaged valves should be reported immediately to the supplier.
- Keep container valve outlets clean and free from contaminants particularly oil and water.
- Replace valve outlet caps or plugs and container caps where supplied as soon as container is disconnected from equipment.
- Close container valve after each use and when empty, even if still connected to equipment.
- Never attempt to transfer gases from one cylinder/container to another.
- Never use direct flame or electrical heating devices to raise the pressure of a container.
- Do not remove or deface labels provided by the supplier for the identification of the content of the container.
- Suck back of water into the container must be prevented.
- Open valve slowly to avoid pressure shock.

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### 7.2. Conditions for safe storage, including any incompatibilities

Observe all regulations and local requirements regarding storage of containers.  
Containers should not be stored in conditions likely to encourage corrosion.  
Container valve guards or caps should be in place.  
Containers should be stored in the vertical position and properly secured to prevent them from falling over.  
Stored containers should be periodically checked for general condition and leakage.  
Keep container below 50°C in a well ventilated place.  
Store containers in location free from fire risk and away from sources of heat and ignition.  
Keep away from combustible materials.  
Segregate from oxidant gases and other oxidants in store.  
All electrical equipment in the storage areas should be compatible with the risk of a potentially explosive atmosphere.


### 7.3. Specific end use(s)


None.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Propane (74-98-6)	
<b>Austria - Occupational Exposure Limits</b>	
Local name	Propan (R 290)
MAK (mg/m³)	1800 mg/m³
MAK (OEL TWA) [ppm]	1000 ppm
MAK (OEL STEL)	3600 mg/m³
MAK (OEL STEL) [ppm]	2000 ppm
<b>Belgium - Occupational Exposure Limits</b>	
Local name	Hydrocarbures aliphatiques sous forme gazeuse : (Alcanes C1-C4) # Alifatische koolwaterstoffen in gas-vorm : Alkanen (C1-C4)
OEL TWA	1000 ppm
<b>Bulgaria - Occupational Exposure Limits</b>	
Local name	Пропан
OEL TWA	1800 mg/m³
<b>Denmark - Occupational Exposure Limits</b>	
Local name	Propan (Flaskegas)
OEL TWA [1]	1800 mg/m³
OEL TWA [2]	1000 ppm
<b>Estonia - Occupational Exposure Limits</b>	
Local name	Propaan
OEL TWA	1800 mg/m³

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		Country : SE / Language : EN	
OEL TWA	1000 ppm		
<b>Finland - Occupational Exposure Limits</b>			
Local name	Propaani		
HTP (OEL TWA) [1]	1500 mg/m <sup>3</sup>		
HTP (OEL TWA) [2]	800 ppm		
HTP (OEL STEL)	2000 mg/m <sup>3</sup>		
HTP (OEL STEL) [ppm]	1100 ppm		
<b>Germany - Occupational Exposure Limits (TRGS 900)</b>			
Local name	Propan		
AGW (OEL TWA) [1]	1800 mg/m <sup>3</sup>		
AGW (OEL TWA) [2]	1000 ppm		
Remark	DFG		
<b>Greece - Occupational Exposure Limits</b>			
OEL TWA	1800 mg/m <sup>3</sup>		
OEL TWA	1000 ppm		
<b>Ireland - Occupational Exposure Limits</b>			
Local name	Propane		
OEL TWA [2]	1000 ppm		
<b>Poland - Occupational Exposure Limits</b>			
Local name	Propan		
NDS (OEL TWA)	1800 mg/m <sup>3</sup>		
<b>Romania - Occupational Exposure Limits</b>			
Local name	Propan		
OEL TWA	1400 mg/m <sup>3</sup>		
OEL TWA	778 ppm		
OEL STEL	1800 mg/m <sup>3</sup>		
OEL STEL	1000 ppm		
<b>Slovenia - Occupational Exposure Limits</b>			
Local name	propan		
OEL TWA	1800 mg/m <sup>3</sup>		
OEL TWA	1000 ppm		
OEL STEL	7200 mg/m <sup>3</sup>		
OEL STEL	4000 ppm		

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<b>Iceland - Occupational Exposure Limits</b>	
Local name	Própan (flöskugas)
OEL TWA	1800 mg/m <sup>3</sup>
OEL TWA	1000 ppm
<b>Norway - Occupational Exposure Limits</b>	
Local name	Propan
Grenseverdi (OEL TWA) [1]	900 mg/m <sup>3</sup>
Grenseverdi (OEL TWA) [2]	500 ppm
<b>Switzerland - Occupational Exposure Limits</b>	
Local name	Propan
MAK (OEL TWA) [1]	1800 mg/m <sup>3</sup>
MAK (OEL TWA) [2]	1000 ppm
KZGW (OEL STEL)	7200 mg/m <sup>3</sup>
KZGW (OEL STEL) [ppm]	4000 ppm
Remark	Formal <sup>KT</sup> - NIOSH
<b>USA - ACGIH - Occupational Exposure Limits</b>	
Local name	Propane
Remark (ACGIH)	Simple Asphyxiant

<b>Butane (106-97-8)</b>	
<b>Austria - Occupational Exposure Limits</b>	
Local name	Butan (beide Isomeren): n-Butan (R 600)
MAK (mg/m <sup>3</sup> )	1900 mg/m <sup>3</sup>
MAK (OEL TWA) [ppm]	800 ppm
MAK (OEL STEL)	3800 mg/m <sup>3</sup>
MAK (OEL STEL) [ppm]	1600 ppm
<b>Belgium - Occupational Exposure Limits</b>	
Local name	Hydrocarbures aliphatiques sous forme gazeuse : (Alcanes C1-C4) # Alifatische koolwaterstoffen in gas-vorm : Alkanen (C1-C4)
OEL TWA	1000 ppm
<b>Bulgaria - Occupational Exposure Limits</b>	
Local name	n-Бутан
OEL TWA	1900 mg/m <sup>3</sup>

## Gasol

**NOAL\_1044**  
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**200Q-6D54**

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### Denmark - Occupational Exposure Limits

Local name	n-Butan
OEL TWA [1]	1200 mg/m <sup>3</sup>
OEL TWA [2]	500 ppm

### Estonia - Occupational Exposure Limits

Local name	n-butään
OEL TWA	1500 mg/m <sup>3</sup>
OEL TWA	800 ppm

### Finland - Occupational Exposure Limits

Local name	n-Butaani
HTP (OEL TWA) [2]	800 ppm
HTP (OEL STEL) [ppm]	1000 ppm

### France - Occupational Exposure Limits

Local name	n-Butane
VME (OEL TWA)	1900 mg/m <sup>3</sup>
VME (OEL TWA) [ppm]	800 ppm
Remark	Valeurs recommandées/admises

### Germany - Occupational Exposure Limits (TRGS 900)

Local name	Butan
AGW (OEL TWA) [1]	2400 mg/m <sup>3</sup>
AGW (OEL TWA) [2]	1000 ppm
Remark	DFG

### Greece - Occupational Exposure Limits

OEL TWA	2350 mg/m <sup>3</sup>
OEL TWA	1000 ppm

### Hungary - Occupational Exposure Limits

Local name	n-BUTÁN
AK (OEL TWA)	2350 mg/m <sup>3</sup>
CK (OEL STEL)	9400 mg/m <sup>3</sup>


### Ireland - Occupational Exposure Limits


Local name	Butane
OEL TWA [2]	1000 ppm

### Latvia - Occupational Exposure Limits

Local name	Butāns
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		Country : SE / Language : EN	
OEL TWA		300 mg/m <sup>3</sup>	
<b>Poland - Occupational Exposure Limits</b>			
Local name		Butan (n-butan)	
NDS (OEL TWA)		1900 mg/m <sup>3</sup>	
NDSCh (OEL STEL)		3000 mg/m <sup>3</sup>	
<b>Slovenia - Occupational Exposure Limits</b>			
Local name		butan	
OEL TWA		2400 mg/m <sup>3</sup>	
OEL TWA		1000 ppm	
OEL STEL		9600 mg/m <sup>3</sup>	
OEL STEL		4000 ppm	
<b>United Kingdom - Occupational Exposure Limits</b>			
Local name		Butane	
WEL TWA (OEL TWA) [1]		1450 mg/m <sup>3</sup>	
WEL TWA (OEL TWA) [2]		600 ppm	
WEL STEL (OEL STEL)		1810 mg/m <sup>3</sup>	
WEL STEL (OEL STEL) [ppm]		750 ppm	
Remark		Carc (Capable of causing cancer and/or heritable genetic damage. See paragraphs 49–51), (only applies if Butane contains more than 0.1% of buta-1,3-diene)	
<b>Iceland - Occupational Exposure Limits</b>			
Local name		n- Bútan	
OEL TWA		1200 mg/m <sup>3</sup>	
OEL TWA		500 ppm	
<b>Norway - Occupational Exposure Limits</b>			
Local name		Butan	
Grenseverdi (OEL TWA) [1]		600 mg/m <sup>3</sup>	
Grenseverdi (OEL TWA) [2]		250 ppm	
<b>Switzerland - Occupational Exposure Limits</b>			
Local name		n-Butan	
MAK (OEL TWA) [1]		1900 mg/m <sup>3</sup>	
MAK (OEL TWA) [2]		800 ppm	
KZGW (OEL STEL)		7600 mg/m <sup>3</sup>	
KZGW (OEL STEL) [ppm]		3200 ppm	
Remark		ZNS <sup>KT</sup>	

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<b>USA - ACGIH - Occupational Exposure Limits</b>	
Local name	Butane, all isomers
ACGIH OEL STEL [ppm]	1000 ppm

DNEL (Derived-No Effect Level) : None established.

PNEC (Predicted No-Effect Concentration) : None established.

## **8.2. Exposure controls**

### **8.2.1. Appropriate engineering controls**

Provide adequate general and local exhaust ventilation.  
Product to be handled in a closed system.  
Systems under pressure should be regularly checked for leakages.  
Ensure exposure is below occupational exposure limits (where available).  
Gas detectors should be used when flammable gases/vapours may be released.  
Consider the use of a work permit system e.g. for maintenance activities.


### **8.2.2. Individual protection measures, e.g. personal protective equipment**

A risk assessment should be conducted and documented in each work area to assess the risks related to the use of the product and to select the PPE that matches the relevant risk.  
The following recommendations should be considered:

- Eye/face protection : PPE compliant to the recommended EN/ISO standards should be selected.  
: Wear goggles when transfilling or breaking transfer connections.  
Standard EN 166 - Personal eye-protection - specifications.
- Skin protection :  
- Hand protection : Wear working gloves when handling gas containers.  
Standard EN 388 - Protective gloves against mechanical risks, performance level 1 or higher.  
Wear cold insulating gloves when transfilling or breaking transfer connections.  
Standard EN 511 - Cold insulating gloves.  
- Other : Consider the use of flame resistant anti-static safety clothing.  
Standard EN ISO 14116 - Limited flame spread materials.  
Standard EN 1149-5 - Protective clothing: Electrostatic properties.  
Wear safety shoes while handling containers.  
Standard EN ISO 20345 - Personal protective equipment - Safety footwear.
- Respiratory protection : Gas filters may be used if all surrounding conditions e.g. type and concentration of the contaminant(s) and duration of use are known.  
Use gas filters with full face mask, where exposure limits may be exceeded for a short-term period, e.g. connecting or disconnecting containers.  
Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask.  
When indicated by a risk assessment, Respiratory Protective Equipment must be used. The selection of the Respiratory Protective Device (RPD) must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected RPD.  
Gas filters do not protect against oxygen deficiency.  
Standard EN 14387 - Gas filter(s), combined filter(s) and standard EN136, full face masks .  
Self contained breathing apparatus is recommended, where unknown exposure may be expected, e.g. during maintenance activities on installation systems.
- Thermal hazards : None in addition to the above sections.

### **8.2.3. Environmental exposure controls**

Refer to local regulations for restriction of emissions to the atmosphere. See section 13 for specific methods for waste gas treatment.

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## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Appearance	
- Physical state at 20°C / 101.3kPa	: Gas
- Colour	: Colourless
Odour	: Odour threshold is subjective and inadequate to warn of overexposure. Mixture contains one or more component(s) which have the following odour: Stenchant often added. Sweetish. Odour threshold is subjective and inadequate to warn of overexposure.
pH	: Not applicable for gases and gas mixtures.
Melting point / Freezing point	: Not applicable for gas mixtures.
Boiling point	: Not applicable for gas mixtures.
Flash point	: Not applicable for gases and gas mixtures.
Flammability	: Extremely flammable gas
Explosive limits	: Flammability range not available.
Lower explosion limit	: Not available
Upper explosion limit	: Not available
Vapour pressure [20°C]	: Not known.
Vapour pressure [50°C]	: Not available
Density	: Not applicable
Vapour density	: Not applicable for gases and gas mixtures.
Relative density, liquid (water=1)	: Not applicable
Relative density, gas (air=1)	: Heavier than air.
Water solubility	: Solubility in water of component(s) of the mixture : • Propane: 75 mg/l • Butane: 88 mg/l
Partition coefficient n-octanol/water (Log Kow)	: Not applicable for gas mixtures.
Auto-ignition temperature	: Not known.
Decomposition temperature	: Not applicable.
Viscosity, kinematic	: No reliable data available.
Particle characteristics	: Not applicable for gases and gas mixtures.

### 9.2. Other information

#### 9.2.1. Information with regard to physical hazard classes

Explosive properties	: Not applicable.
Oxidising properties	: Not applicable.

#### 9.2.2. Other safety characteristics

Molar mass	: Not applicable for gas mixtures.
Evaporation rate	: Not applicable for gases and gas mixtures.
Other data	: Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity


No reactivity hazard other than the effects described in sub-sections below.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

Can form explosive mixture with air.  
May react violently with oxidants.

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Reactivity : This mixture contains components with the following reactivity : Can form explosive mixture with air. May react violently with oxidants.

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

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
Avoid moisture in installation systems.

#### **10.5. Incompatible materials**

Air, Oxidisers.  
For additional information on compatibility refer to ISO 11114.

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

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## **SECTION 11: Toxicological information**

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

Acute toxicity : Classification criteria are not met.

#### **Propane (74-98-6)**

LC50 Inhalation - Rat [ppm]	20000 ppm/4h
-----------------------------	--------------

Skin corrosion/irritation : No known effects from this product.

Serious eye damage/irritation : No known effects from this product.

Respiratory or skin sensitisation : No known effects from this product.

Germ cell mutagenicity : No known effects from this product.

Carcinogenicity : No known effects from this product.

Toxic for reproduction : Fertility : No known effects from this product.

Toxic for reproduction : unborn child : No known effects from this product.

STOT-single exposure : No known effects from this product.

STOT-repeated exposure : No known effects from this product.

Aspiration hazard : Not applicable for gases and gas mixtures.

### **11.2. Information on other hazards**

Other information : The substance/mixture has no endocrine disrupting properties.

## **SECTION 12: Ecological information**

### **12.1. Toxicity**

Assessment : Classification criteria are not met.


EC50 48h - Daphnia magna [mg/l] : No data available.

EC50 72h - Algae [mg/l] : No data available.

LC50 96 h - Fish [mg/l] : No data available.

#### **Propane (74-98-6)**

EC50 48h - Daphnia magna [mg/l]	27.1 mg/l
EC50 72h - Algae [mg/l]	11.9 mg/l

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Propane (74-98-6)	
LC50 96 h - Fish [mg/l]	49.9 mg/l

Butane (106-97-8)	
EC50 48h - Daphnia magna [mg/l]	14.2 mg/l
EC50 72h - Algae [mg/l]	7.7 mg/l
LC50 96 h - Fish [mg/l]	24.1 mg/l

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

Assessment : No data available.

### **12.3. Bioaccumulative potential**

Assessment : No data available.

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

Assessment : Because of its high volatility, the product is unlikely to cause ground or water pollution. Partition into soil is unlikely.

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

Assessment : Not classified as PBT or vPvB.

### **12.6. Endocrine disrupting properties**

The substance/mixture has no endocrine disrupting properties.

### **12.7. Other adverse effects**

Other adverse effects : No known effects from this product.  
Effect on the ozone layer : None.  
Effect on global warming : Contains greenhouse gas(es).

## **SECTION 13: Disposal considerations**


### **13.1. Waste treatment methods**

Contact supplier if guidance is required.  
Do not discharge into areas where there is a risk of forming an explosive mixture with air.  
Waste gas should be flared through a suitable burner with flash back arrestor.  
Do not discharge into any place where its accumulation could be dangerous.  
Ensure that the emission levels from local regulations or operating permits are not exceeded.  
Refer to the EIGA code of practice Doc.30 "Disposal of Gases", downloadable at <http://www.eiga.org> for more guidance on suitable disposal methods.  
Return unused product in original container to supplier.

List of hazardous waste codes (from Commission Decision 2000/532/EC as amended) : 16 05 04 \*: Gases in pressure containers (including halons) containing hazardous substances.

### **13.2. Additional information**

External treatment and disposal of waste should comply with applicable local and/or national regulations.

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## SECTION 14: Transport information

### 14.1. UN number or ID number

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

UN-No. : 3161

### 14.2. UN proper shipping name

**Transport by road/rail/inland waterways (ADR/RID/ADN)** : LIQUEFIED GAS, FLAMMABLE, N.O.S. (Propane, Butane)

**Transport by air (ICAO-TI / IATA-DGR)** : Liquefied gas, flammable, n.o.s. (Propane, Butane)

**Transport by sea (IMDG)** : LIQUEFIED GAS, FLAMMABLE, N.O.S. (Propane, Butane)

### 14.3. Transport hazard class(es)

#### Labelling



2.1 : Flammable gases.

#### Transport by road/rail/inland waterways (ADR/RID/ADN)

Class : 2  
Classification code : 2F  
Hazard identification number : 23  
Tunnel Restriction : B/D - Tank carriage: Passage forbidden through tunnels of category B, C, D and E. Other carriage: Passage forbidden through tunnels of category D and E

#### Transport by air (ICAO-TI / IATA-DGR)

Class / Div. (Sub. risk(s)) : 2.1

#### Transport by sea (IMDG)

Class / Div. (Sub. risk(s)) : 2.1  
Emergency Schedule (EmS) - Fire : F-D  
Emergency Schedule (EmS) - Spillage : S-U

### 14.4. Packing group

Transport by road/rail/inland waterways (ADR/RID/ADN) : Not established.

Transport by air (ICAO-TI / IATA-DGR) : Not established.

Transport by sea (IMDG) : Not established.

### 14.5. Environmental hazards

Transport by road/rail/inland waterways (ADR/RID/ADN) : None.

Transport by air (ICAO-TI / IATA-DGR) : None.

Transport by sea (IMDG) : None.

### 14.6. Special precautions for user


#### Packing Instruction(s)

Transport by road/rail/inland waterways (ADR/RID/ADN) : P200

Transport by air (ICAO-TI / IATA-DGR)  
Passenger and Cargo Aircraft : Forbidden.

Cargo Aircraft only : 200.

Transport by sea (IMDG) : P200

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Special transport precautions : Avoid transport on vehicles where the load space is not separated from the driver's compartment.  
Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency.  
Before transporting product containers:  
- Ensure there is adequate ventilation.  
- Ensure that containers are firmly secured.  
- Ensure valve is closed and not leaking.  
- Ensure valve outlet cap nut or plug (where provided) is correctly fitted.  
- Ensure valve protection device (where provided) is correctly fitted.

#### 14.7. Maritime transport in bulk according to IMO instruments

Not applicable.

### SECTION 15: Regulatory information

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

##### EU-Regulations

Restrictions on use : None.  
Contains no substance(s) listed on the REACH Candidate List  
National legislation : Ensure all national/local regulations are observed.  
Seveso Directive : 2012/18/EU (Seveso III) : Covered.

##### National regulations

Ensure all national/local regulations are observed.

##### Germany

Water hazard class (WGK) : WGK nwg, Non-hazardous to water (Classification according to AwSV, Annex 1)  
National Rules and Recommendations : [German regulations] BetriebssicherheitsV mit TRBSen insbesondere TRBS 3145 / TRGS 725 Ortsbewegliche Druckgasbehälter", TRBS 2141, BGR Regel 500 Teil 2.33: "Umgang mit Gasen", GefahrstoffV mit Technischen Regeln Gefährliche Stoffe TRGS insbesondere TRGS 407 "Tätigkeiten mit Gasen - Gefährdungsbeurteilung", TRGS 400, 500, 510, 900." BGR 104, TRBS 2152.

##### Netherlands

SZW-lijst van kankerverwekkende stoffen : None of the components are listed  
SZW-lijst van mutagene stoffen : None of the components are listed  
SZW-lijst van reprotoxische stoffen – Borstvoeding : None of the components are listed  
SZW-lijst van reprotoxische stoffen – Vruchtbaarheid : None of the components are listed  
SZW-lijst van reprotoxische stoffen – Ontwikkeling : None of the components are listed

##### Denmark

Danish National Regulations : Young people below the age of 18 years are not allowed to use the product


#### 15.2. Chemical safety assessment

A CSA does not need to be carried out for this product.

### SECTION 16: Other information

Indication of changes : Safety data sheet in accordance with commission regulation (EU) No 2020/878.

Section	Changed item	Change	Comments
1.3	Company	Modified	Version 5.0. New address in Sweden. (This change only applies to the Swedish (SE) version of this SDS)

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**Abbreviations and acronyms**

: ATE - Acute Toxicity Estimate  
 CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008  
 REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006  
 EINECS - European Inventory of Existing Commercial Chemical Substances  
 CAS# - Chemical Abstract Service number  
 PPE - Personal Protection Equipment  
 LC50 - Lethal Concentration to 50 % of a test population  
 RMM - Risk Management Measures  
 PBT - Persistent, Bioaccumulative and Toxic  
 vPvB - Very Persistent and Very Bioaccumulative  
 STOT- SE : Specific Target Organ Toxicity - Single Exposure  
 CSA - Chemical Safety Assessment  
 EN - European Standard  
 UN - United Nations  
 ADR - Agreement concerning the International Carriage of Dangerous Goods by Road  
 IATA - International Air Transport Association  
 IMDG code - International Maritime Dangerous Goods  
 RID - Regulations concerning the International Carriage of Dangerous Goods by Rail  
 WGK - Water Hazard Class  
 STOT - RE : Specific Target Organ Toxicity - Repeated Exposure  
 UFI : Unique Formula Identifier

**Training advice** : Ensure operators understand the flammability hazard.

**Further information** : Classification using data from databases maintained by the European Industrial Gases Association (EIGA). Data is maintained in EIGA doc 169 : 'Classification and Labelling Guide', downloadable at : <http://www.eiga.eu>.  
 Classification in accordance with the procedures and calculation methods of Regulation (EC) 1272/2008 (CLP).

Full text of H- and EUH-statements	
Flam. Gas 1A	Flammable gases, Category 1A
H220	Extremely flammable gas.
H280	Contains gas under pressure; may explode if heated.
Press. Gas (Liq.)	Gases under pressure : Liquefied gas

**DISCLAIMER OF LIABILITY**

: Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out.  
 Details given in this document are believed to be correct at the time of going to press.  
 Whilst proper care has been taken in the preparation of this document, no liability for injury or damage resulting from its use can be accepted.

**End of document**