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

1.1. Product identifier

Product name	:	BENEGAS PROPANE
Product code	:	Ben-005
Chemical name	:	Propane
Registration nr.	:	REACH Annex V paragraph 10 applies. Exempted from the obligation to register.
Annex VI no	:	601-003-00-5

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

Application	:	SU22 Professional use. Institutional use. SU3 Industrial uses. PC13 Fuel.

1.3. Details of the supplier of the safety data sheet

Supplier	:	Benegas B.V. Zuiderzeestraatweg 1 3882 NC Putten, The Netherlands
Telephone	:	+31 341 723350
E-mail	:	info@benegas.com
Website	:	www.benegas.com

1.4. Emergency telephone number

EMERGENCY TELEPHONE NUMBER, for DOCTORS/FIRE BRIGADE/POLICE only:

NL - Telephone	:	+31 341 723350	(24/7)

SECTION 2 HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

CLP classification (1272/2008/EC)	:	Flammable gas, category 1A. Gases under pressure: Liquefied gas.
Human health hazards	:	Low hazard for usual industrial or commercial handling.
Physical/chemical hazards	:	Extremely flammable. Contains gas under pressure; may explode if heated.
Environmental hazards	:	Not classified as dangerous according to statutory EC-Directives.

2.2. Label elements

Label elements (1272/2008/EC):

Hazard pictograms :

Signal word : Danger

H- and P-phrases	:	H220	Extremely flammable gas.
		H280	Contains gas under pressure; may explode if heated.
		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.

Additional labelling (for all packaging sizes)
: Propane
: EC number: 200-827-9

2.3. Other hazards

Other information : Not classified as PBT or vPvB.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

3.1. Substances

Product description : Substance. Not classified as PBT or vPvB. Not included in the EU list with SVHC substances. The 1,3-butadiene content of this product is less than 0.1%.

Nota according to EU 1272/2008 : Nota U applies.

Information on substances:

Substance name	Concentration (w/w) (%)	CAS nr.	EC number	Remark	REACH nr.
Propane	100	74-98-6	200-827-9		
Butane	1 - < 5	106-97-8	203-448-7		
Isobutane	1 - < 5	75-28-5	200-857-2		

Occupational exposure limit(s), if relevant, are listed in section 8.

Substance name	Hazard Class	H-phrases	Pictograms	
Propane	Flam. Gas 1A; Press. Gas	H220; H280	GHS02; GHS04	
Butane	Flam. Gas 1A; Press. Gas	H220; H280	GHS02; GHS04	
Isobutane	Flam. Gas 1A; Press. Gas	H220; H280	GHS02; GHS04	

Reference is made to chapter 16 for full text of each relevant H phrase.

SECTION 4 FIRST-AID MEASURES

4.1. Description of first aid measures

First aid measures
- Inhalation : Move victim into fresh air. Consult a doctor if victim feels unwell.
- Skin contact : In the event of frostbite, rinse copiously with water. Consult a doctor in case burns or irritation occur.
- Eye contact : Wash out with (lukewarm) water. Remove contact lenses. Consult a doctor if irritation persists.
- Ingestion : Not applicable.

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

Effects and symptoms
- Inhalation : May cause headache, dizziness and a feeling of sickness.
- Skin contact : May cause dry skin.
- Eye contact : May cause stinging of eyes and redness.
- Ingestion : Not applicable.

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

Note to physicians :
General : Call a poison control centre for guidance.

SECTION 5 FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Extinguishing media
Suitable : Do not attempt to extinguish burning gas. If possible shut off the gas supply. Let the fire burn out.
Not suitable : Water jet. Use of heavy stream of water may spread fire.

5.2. Special hazards arising from the substance or mixture

Special exposure hazards : Closed container may rupture if strongly heated. Unless equipped with release valve. Use water spray to cool containers exposed to heat. The vapour is heavier than air, spreads along the ground and distant ignition is possible.
Hazardous thermal decomposition products : Carbon monoxide may be evolved if incomplete combustion occurs.

5.3. Advice for firefighters

Special protective equipment for fire-fighters : Use adequate respiratory equipment in case of insufficient ventilation.

SECTION 6 ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions : Provide good ventilation. Avoid contact with spilled or released material. Keep away from sources of ignition — No smoking. Vapour may form an explosive mixture with air. Vapours are heavier than air. Build up (of gasses) in low areas involves risk of suffocation.

6.2. Environmental precautions

Environmental precautions : Note the wind direction in which the gas is being dispersed. Avoid the formation of a gas cloud.
Other information : Notify authorities if any exposure to the general public or the environment occurs or is likely to occur.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Not applicable.

6.4. Reference to other sections

Reference to other sections : See also section 8.

SECTION 7 HANDLING AND STORAGE

7.1. Precautions for safe handling

Handling : Handle in accordance with good occupational hygiene and safety practices in well-ventilated areas. Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Do not breathe vapour. Avoid contact with skin and eyes.

7.2. Conditions for safe storage, including any incompatibilities

Storage : Keep in a cool, dry and well-ventilated place (< 35 °C). Protect from sunlight. Keep away from oxidizing agents.
Recommended packaging : Keep only in the original container.

Non recommended packaging	:	PE and PP.

7.3. Specific end use(s)

Use	:	Use only as directed.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Workplace exposure limits (mg/m³):

Chemical name	Country	TWA 8 hour (mg/m3)	STEL 15 min (mg/m3)	Comments	Source
Propane	GB	1800	-	-	MAC: BG, PL, CH, SL, etc
Butane		1450	1810		
Butane		1450	1810		MAC: UK
Isobutane		1900	2400		MAC: FI, BE, CH

8.2. Exposure controls

Engineering measures	:	Use only in well-ventilated areas. Comply with standard precautionary measures for working with chemicals.
Hygienic measures	:	When using do not eat, drink or smoke.

Personal protective equipment:
The efficiency of personal protective equipment depends among other things on temperature and degree of ventilation. Always get professional advice for the particular local situation.

Body protection	:	Use of specific protective industrial clothing is not required under normal conditions of use.
Respiratory protection	:	Take care of sufficient ventilation. Wear suitable respiratory protection in case of large scale exposure. Suitable: gas filter type A (brown), class I or higher on e.g. a facemask in accordance with EN 140.
Hand protection	:	Insulating gloves.
Eye protection	:	Wear appropriate safety glasses when there is danger of possible eye contact.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state	:	Gas.	Gas condensed to liquid.
Colour	:	Colourless.	
Odour	:	Characteristic.	
Odour threshold	:	1500 ppm	
pH	:	Not applicable.	Gas.
Solubility in water	:	Not soluble.	
Partition coefficient (n-octanol/water)	:	Not applicable.	
Flash point	:	-70 °C	
Flammability (solid, gas)	:	Extremely flammable.	
Auto ignition temperature	:	460 °C	
Boiling point/boiling range	:	-43 °C	
Melting point/melting range	:	< -60 °C	
Explosive properties	:	Not an explosive.	Does not contain explosives. Vapour may form an explosive mixture with air.
Explosion limits (% in air)	:	2,2 - 10	
Oxidising properties	:	Not oxidizing.	

Decomposition temperature	:	Not applicable.	
Kinematic viscosity (20°C)	:	Not applicable.	
Viscosity (40°C)	:	Not applicable.	
Vapour pressure (20°C)	:	560000 Pa	
Relative vapour density	:	> 1	(air = 1)
Relative density (20°C)	:	0,53 g/ml	
Particle characteristics	:	Not applicable.	Liquid.

9.2. Other information

Other information : Not relevant.

SECTION 10 STABILITY AND REACTIVITY

10.1. Reactivity

Reactivity : See sub-sections below.

10.2. Chemical stability

Stability : Stable under normal conditions.

10.3. Possibility of hazardous reactions

Reactivity : No other hazardous reactions known.

10.4. Conditions to avoid

Conditions to avoid : See section 7.

10.5. Incompatible materials

Materials to avoid : Keep away from oxidizing agents.

10.6. Hazardous decomposition products

Hazardous decomposition products : Not known.

SECTION 11 TOXICOLOGICAL INFORMATION

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

Inhalation

- Acute toxicity : ATE: > 5 mg/l. Low toxicity. Not classified - based on available data, the classification criteria are not met. May cause headache, dizziness and a feeling of sickness.
- Corrosion/irritation : Not classified due to lack of data.
- Sensitisation : Not classified due to lack of data.
- Carcinogenicity : Not expected to be carcinogenic. Not classified - based on available data, the classification criteria are not met.
- Mutagenicity : Not expected to be mutagenic. Not classified - based on available data, the classification criteria are not met.
- Reprotoxicity : Development: Not classified due to lack of data. Fertility: Not classified due to lack of data.

Skin contact

- Acute toxicity : Not classified due to lack of data. ATE: > 2000 mg/kg.bw. Low toxicity. Not classified - based on available data, the classification criteria are not met.
- Corrosion/irritation : Prolonged contact may dry out and defat the skin. Not classified - based on available data, the classification criteria are not met.
- Sensitisation : Not classified - based on available data, the classification criteria are not met.

Carcinogenicity : Not expected to be carcinogenic. Not classified - based on available data, the classification criteria are not met.
Mutagenicity : Not expected to be mutagenic. Not classified - based on available data, the classification criteria are not met.
Reprotoxicity : Not classified due to lack of data.

Eye contact
Corrosion/irritation : Slight irritation possible. Not classified - based on available data, the classification criteria are not met.

Ingestion
Acute toxicity : Not classified due to lack of data. ATE: > 2000 mg/kg.bw. Low toxicity. Not classified - based on available data, the classification criteria are not met.
Aspiration : Not expected to be an aspiration hazard. Not classified - based on available data, the classification criteria are not met.
Corrosion/irritation : May cause a feeling of sickness, vomiting and diarrhoea.
Carcinogenicity : Not expected to be carcinogenic. Not classified - based on available data, the classification criteria are not met.
Mutagenicity : Not expected to be mutagenic. Not classified - based on available data, the classification criteria are not met.
Reprotoxicity : Development: Not classified due to lack of data. Fertility: Not classified due to lack of data.

Toxicological information:

Chemical name	Property		Method	Test animal
Propane	NOAEL (inhalation)	7214 mg/m3	OECD 422	Rat
	LC50 (inhalation)	> 99999 mg/m3		
	Mutagenicity	Negative	OECD 471	Salmonella typhimurium
	NOAEL (fertility, inh.)	> 21641 mg/m3	OECD 422	Rat
	Genotoxicity - in vivo	Negative	-----	-----
	Genotoxicity - in vitro	Not genotoxic	OECD 473	
	NOAEL (developmental toxicity, inh.)	> 21641 mg/m3	OECD 422	Rat
	Mutagenicity - estimate	Not mutagenic	Read across	
	Skin sensitisation - estimate	Not sensitizing	Read across	
	Skin irritation - estimate	Non-irritant	Read across	
	Eye irritation - estimate	Non-irritant	Read across	

11.2. Information on other hazards

Endocrine disrupting properties : Not applicable.
Other information : Not applicable.

SECTION 12 ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity : Calculated LC50 (fish): mg/l. Calculated EC50 (waterflea): mg/l. Contains 0 % of components with unknown hazards to the aquatic environment. Not classified - based on available data, the classification criteria are not met.

12.2. Persistence and degradability

Persistence – degradability : No specific information known.

12.3. Bioaccumulative potential

Bioaccumulative potential : No BCF available. No bioaccumulation is expected.

12.4. Mobility in soil

Mobility : Not applicable Evaporates.

12.5. Results of PBT and vPvB assessment

PBT/vPvB assessment : Not classified as PBT or vPvB.

12.6. Endocrine disrupting properties

Endocrine disrupting properties : Not applicable.

12.7. Other adverse effects

Other adverse effects : Not applicable.

SECTION 13 DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Product residues : Do not dispose empty pack with waste produced by households. Containers should be recycled or re-used. Treat product residues and non-empty pack as hazardous waste.

Additional warning : Residues may cause an explosion hazard. Do not puncture, cut or weld uncleaned drums.

Waste water discharge : Avoid discharge of waste water arising from tank cleaning to the environment.

European waste catalogue : Dispose hazardous waste in accordance with Directive 91/689/EEC under acknowledgement of a waste code according to Commission Decision 2000/532/EC to an official chemical waste depot.

Local legislation : Disposal should be in accordance with applicable regional, national, and local laws and regulations. Local regulations may be more stringent than regional or national requirements and must be complied with.

SECTION 14 TRANSPORT INFORMATION

14.1. UN number or ID number

UN nr. : UN 1965

14.2. UN proper shipping name

Transport name : HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S. (PROPANE)

Transport name (IMDG, IATA) : HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S. (Propane)

14.3/14.4/14.5. Transport hazard class(es)/Packing group/Environmental hazards

ADR/RID/ADN (road/railway/inland waterways)

Class : 2

Classification code : 2F

Packaging group : -

Danger label : 2,1

Tunnel restriction code : B/D

:

Other information : Not intended for carriage by tank-vessels on inland waterways.

IMDG (sea)

Class	:	2
Packaging group	:	-
EmS (fire / spill)	:	F - D / S - U
Marine pollutant	:	No

IATA (air)

Class	:	2
ERG code	:	10L
Packaging group	:	-

14.6. Special precautions for user

Other information : Country specific variations may apply. For the transport of this product there is no "Limited Quantity" exemption applicable.

14.7. Maritime transport in bulk according to IMO instruments

Marpol : Not intended to be carried in bulk according to International Maritime Organisation (IMO) instruments. Packaged liquids are not considered bulk.

SECTION 15 REGULATORY INFORMATION

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

Community regulations : Regulation (EU) No 2020/878 (REACH), Regulation (EC) No 1272/2008 (CLP) and other regulations. Directive 2008/98/EC (waste).

15.2. Chemical safety assessment

Chemical safety assessment : Not available.

SECTION 16 OTHER INFORMATION

16.1. Other information

The information in this safety data sheet is compiled in compliance with Regulation (EU) No 2020/878 dated 18 June 2020 and accurate to the best of our knowledge and experience at the date of issue specified. It is the user's obligation to use this product safely and to comply with all applicable laws and regulations concerning the use of the product. This safety data sheet complements the technical information sheets but does not replace them and offers no warranty with regard to product properties.

Users are also forewarned for any hazards involved when the product is used for other purposes than those for which it is designed.

Changed or new information with regard to the previous release is indicated with an asterisk (*).

List of abbreviations and acronyms that could be (but not necessarily are) used in this safety data sheet:

ADR	:	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	:	Acute Toxicity Estimate
CLP	:	Classification, Labeling & Packaging
CMR	:	Carcinogenic, Mutagenic or toxic for Reproduction
EEC	:	European Economic Community
GHS	:	Globally Harmonized System of Classification and Labelling of Chemicals
IATA	:	International Air Transport Association
IBC code	:	International Bulk Chemical Code
IMDG	:	International Maritime Dangerous Goods Code
LD50/LC50	:	Lethal Dose/Concentration for 50% of a population
MAC	:	Maximum Allowable Concentration

MARPOL	:	International Convention for the Prevention of Pollution From Ships
NO(A)EL	:	No Observed (Adverse) Effect Level
OECD	:	Organisation for Economic Co-operation and Development
PBT	:	Persistent, Bioaccumulative and Toxic
PC	:	Chemical product category
PT	:	Product type
REACH	:	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	:	Regulations concerning the International Carriage of Dangerous Goods by Rail
STP	:	Sewage Treatment Plant
SU	:	Sector of Use
TWA/STEL	:	Time-Weighted Average/Short Term Exposure Limit
UN	:	United Nations
UFI	:	Unique formula identifier
VOC	:	Volatile Organic Compounds
vPvB	:	Very Persistent and Very Bioaccumulative

Key data used to compile the Safety Data Sheet are from, but not limited to, one or more sources of information e.g. toxicological data from material suppliers, CONCAWE, IFRA, CESIO, Regulation EG 1272/2008, etc.

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008:

Flam. Gas 1	:	Expert judgement.
Liq. Gas	:	Expert judgement.

Full text of hazard classes mentioned in section 3:

Flam. Gas 1	:	Flammable gas, category 1.
Press. Gas	:	Gases under pressure.

Full text of H-phrases mentioned in section 3:

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

Advice on any training appropriate for workers: none.

Number format : "," used as decimal separator.

End of safety data sheet.