

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

## Propane

Version 10.0

Revision Date: 15.01.2024

Former date: 17.11.2022

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

#### 1.1 Product identifier

Trade name : Propane  
REACH Registration Number : 01-2119486944-21-XXXX, 01-2119486944-21-0012  
Substance name : Propane  
EC-No. : 200-827-9

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

Use of the Substance/Mixture : Raw material in chemical industry

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

Company : Borealis Polymers Oy  
P.O.Box 330, FI-06101 Porvoo, Finland  
Telephone: +358 9 394900  
  
Borealis AB  
S-444 86 Stenungsund, Sweden  
Telephone: +46 303 86000  
  
Borealis Kallo N.V.  
Haven 1568, Sint-Jansweg 2, B-9130 Kallo-Kieldrecht,  
Belgium  
Telephone: +32 3 570 5211  
  
Supplier : Borealis AG  
Trabrennstrasse 6-8, 1020 Vienna, Austria  
Telephone: +43 1 22400 0  
  
E-mail address : [sds@borealisgroup.com](mailto:sds@borealisgroup.com)

#### 1.4 Emergency telephone number

||+1 760 476 3962 (3E), Access code: 336296

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### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### Classification (REGULATION (EC) No 1272/2008)

Flammable gases, Category 1A

H220: Extremely flammable gas.

Gases under pressure, Refrigerated liquefied gas

H281: Contains refrigerated gas; may cause cryogenic burns or injury.

#### 2.2 Label elements

##### Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Danger

Hazard statements : H220 Extremely flammable gas.  
H281 Contains refrigerated gas; may cause cryogenic burns or injury.

Precautionary statements : **Prevention:**  
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P282 Wear cold insulating gloves and either face shield or eye protection.  
**Response:**  
P336 + P315 Thaw frosted parts with lukewarm water. Do not rub affected area. Get immediate medical advice.  
P377 Leaking gas fire: Do not extinguish, unless leak can be stopped safely.  
P381 In case of leakage, eliminate all ignition sources.  
**Storage:**  
P410 + P403 Protect from sunlight. Store in a well-ventilated place.

#### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

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Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Rapid evaporation of the liquid may cause frostbite.

Vapours are heavier than air and can cause suffocation by reducing oxygen available for breathing.

Risk of explosion if heated under confinement.

Vapours may form explosive mixtures with air.

High risk of fire in case of leakage.

### SECTION 3: Composition/information on ingredients

#### 3.1 Substances

Substance name : Propane

EC-No. : 200-827-9

#### Components

Chemical name	CAS-No. EC-No.	Concentration (% w/w)	M-Factor, SCL, ATE
propane	74-98-6 200-827-9	>= 95 - < 100	
butane	106-97-8 203-448-7	< 5	
isobutane	75-28-5 200-857-2	< 5	

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

General advice : Move out of dangerous area.  
In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

If inhaled : Move to fresh air.  
Do not leave the victim unattended.  
Keep warm and at rest and provide fresh air.  
If unconscious, place in recovery position and seek medical

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- advice.  
In case of breathing difficulties, apply mouth to mouth respiration.
- In case of skin contact : Remove/ Take off immediately all contaminated clothing.  
If clothing already frozen and stuck to the skin:  
Do not remove contaminated clothing.  
Wash frost-bitten areas with plenty of lukewarm water.  
Do not rub affected area.  
Seek medical advice.
- In case of eye contact : Remove contact lenses.  
Rinse thoroughly with plenty of water, also under the eyelids.  
Keep eye wide open while rinsing.  
Consult a physician.
- If swallowed : Not probable:  
The product evaporates readily.

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

- Symptoms : Inhalation may provoke the following symptoms:  
Drowsiness  
Suffocation  
Inhalation may cause central nervous system effects.  
Skin contact may provoke the following symptoms:  
Frostbite

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

- Treatment : Treat frost-bitten areas as needed.

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media : Dry powder  
Carbon dioxide (CO<sub>2</sub>)  
Foam  
Water mist
- Unsuitable extinguishing media : Do NOT use water jet.

### 5.2 Special hazards arising from the substance or mixture

- Specific hazards during : Incomplete combustion may produce:

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firefighting

Carbon dioxide (CO<sub>2</sub>), carbon monoxide (CO), dense black smoke.

Flash back possible over considerable distance.

Do not allow run-off from fire fighting to enter drains or water courses.

Risk of explosion.

### 5.3 Advice for firefighters

Special protective equipment for firefighters : Wear self-contained breathing apparatus and protective suit.

Further information : Attempt to stop leakage without personal risk.  
If conditions permit, let fire burn itself out.  
Cool containers/tanks with water spray.

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## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Vapours are heavier than air and can cause suffocation by reducing oxygen available for breathing.

Use personal protective equipment.

Keep people away from and upwind of spill/leak.

Eliminate all ignition sources if safe to do so.

Attempt to stop leakage without personal risk.

See chapter 8.

### 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so.

Prevent product from entering environment and drains.

Observe the risk of explosion.

If major spillage occurs, contact the proper local authorities.

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

Allow to evaporate.

Ensure adequate ventilation, especially in confined areas.

### 6.4 Reference to other sections

For personal protection see section 8.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Advice on safe handling : Refill and handle product only in closed system.

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Prevent leaks by checking valves, pipelines and joints regularly.  
Drain down and flush system prior to equipment opening or maintenance.  
Smoking, eating and drinking should be prohibited in the application area.

Advice on protection against fire and explosion : Ensure adequate ventilation.

High risk of fire in case of leakage.

Vapours are heavier than air and may spread along floors.  
Vapours may form explosive mixtures with air.

Keep away from heat and sources of ignition. Risk of explosion if heated under confinement.

Take precautionary measures against static discharges. To avoid ignition of vapours by static electricity discharge, all metal parts of the equipment must be grounded.

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

Requirements for storage areas and containers : Store in cool place. Keep container in a well-ventilated place. Protect from sunlight. Keep product and empty container away from heat and sources of ignition. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Further information on storage conditions : Keep locked up or in an area accessible only to qualified or authorised persons.

Advice on common storage : Keep away from incompatible materials. See chapter 10.

### 7.3 Specific end use(s)

Specific use(s) : Not applicable

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

Contains no substances with occupational exposure limit values.

#### Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
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Propane			
Remarks:	Not applicable		

### Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
Propane		
Remarks:	Not applicable	

## 8.2 Exposure controls

### Engineering measures

Application in a closed system  
Provide adequate ventilation.  
Use personal protective equipment.

### Personal protective equipment

Eye protection : Safety goggles or face-shield.  
(EN 166)

Hand protection

Remarks : Cold-insulating gloves (e.g. nitrile rubber).  
The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it. Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

Skin and body protection : Wear suitable protective clothing.  
Safety shoes  
Leather boots

Respiratory protection : In case of insufficient ventilation: Self-contained breathing apparatus.  
Vapours are heavier than air and can cause suffocation by reducing oxygen available for breathing.

### Environmental exposure controls

General advice : Prevent further leakage or spillage if safe to do so. Prevent product from entering environment and drains. Observe the risk of explosion. If major spillage occurs, contact the proper local authorities.

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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

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Physical state	:	Refrigerated liquefied gas gaseous
Colour	:	clear
Odour	:	odourless
Odour Threshold	:	No data available
Melting point	:	ca. -190 °C
Boiling point	:	-42 °C
Flammability	:	Extremely flammable.
Upper explosion limit / Upper flammability limit	:	Upper flammability limit 9,5 %(V)
Lower explosion limit / Lower flammability limit	:	Lower flammability limit 2,1 %(V)
Flash point	:	-104 °C
Decomposition temperature	:	Heating or fire can release toxic and irritating gases.
pH	:	No data available
Viscosity		
Viscosity, dynamic	:	Not applicable (gaseous)
Viscosity, kinematic	:	Not applicable (gaseous)
Solubility(ies)		
Water solubility	:	0,07 g/l (20 °C)
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	log Pow: 2,36
Vapour pressure	:	study technically not feasible
Relative density	:	0,51 (15 °C)
Density	:	ca. 0,50 g/cm <sup>3</sup> (25 °C)



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Relative vapour density : 1,6  
Particle size : Not applicable

### 9.2 Other information

Explosives : Not applicable  
Oxidizing properties : Not applicable  
Self-ignition : 450 °C  
Evaporation rate : No data available  
Molecular weight : 44,1 g/mol

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No dangerous reaction known under conditions of normal use.

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

Hazardous reactions : Vapours may form explosive mixture with air.

### 10.4 Conditions to avoid

Conditions to avoid : Keep away from heat and sources of ignition.  
Observe the risk of explosion.

### 10.5 Incompatible materials

Materials to avoid : Strong acids and oxidizing agents  
Reacts violently with:  
Chlorine

### 10.6 Hazardous decomposition products

None.

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### SECTION 11: Toxicological information

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

##### Acute toxicity

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

##### Components:

##### propane:

- Acute oral toxicity : Remarks: study technically not feasible (gaseous)
- Acute inhalation toxicity : LC50: 1.443 mg/l  
Exposure time: 15 min  
Symptoms: Central nervous system depression  
Remarks: Acute toxicity: low.
- Acute dermal toxicity : Remarks: study technically not feasible (gaseous)

##### Skin corrosion/irritation

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

##### Serious eye damage/eye irritation

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

##### Respiratory or skin sensitisation

##### Skin sensitisation

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

##### Respiratory sensitisation

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

##### Germ cell mutagenicity

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

##### Components:

##### propane:

- Genotoxicity in vitro : Test Type: Ames test  
Result: negative  
Remarks: In vitro tests did not show mutagenic effects
- Genotoxicity in vivo : Test Type: In vivo micronucleus test  
Result: negative  
Remarks: Read-across (Analogy)

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### Carcinogenicity

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

### Components:

#### propane:

Remarks : This information is not available.

### Reproductive toxicity

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

### Components:

#### propane:

Effects on foetal development : General Toxicity Maternal: NOAEL: 12.000 ppm  
Teratogenicity: NOAEL F1: 12.000 ppm  
Method: OECD Test Guideline 422

### STOT - single exposure

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

### STOT - repeated exposure

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

### Aspiration toxicity

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

### Components:

#### propane:

No aspiration toxicity classification

## 11.2 Information on other hazards

### Endocrine disrupting properties

#### Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

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## SECTION 12: Ecological information

### 12.1 Toxicity

#### Components:

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### propane:

- Toxicity to fish : LC50 : 49,47 mg/l  
Exposure time: 96 h  
Test Type: Short term  
Method: QSAR
- Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia (water flea)): 27,14 mg/l  
Exposure time: 48 h  
Test Type: Short term  
Method: QSAR
- Toxicity to algae/aquatic plants : EC50 : 11,89 mg/l  
Method: QSAR
- Toxicity to microorganisms :  
Remarks: No data available
- Toxicity to fish (Chronic toxicity) : Remarks: No data available
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : Remarks: No data available

## 12.2 Persistence and degradability

### Components:

#### propane:

- Biodegradability : Method: QSAR  
Remarks: Readily biodegradable.
- Physico-chemical removability : Remarks: Prone to photochemical degradation, reacting with OH radicals and ozone.  
Estimated atmospheric lifetime: ca. 14 days

## 12.3 Bioaccumulative potential

### Components:

#### propane:

- Bioaccumulation : Remarks: Bioaccumulation not expected: Partition coefficient (n-octanol/water) log Pow < 3.

## 12.4 Mobility in soil

### Components:

#### propane:

- Mobility : Medium: Soil

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Remarks: Not expected to adsorb on soil., Partition coefficient (n-octanol/water) log Kow < 3., The product evaporates readily to air.

### 12.5 Results of PBT and vPvB assessment

#### Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher..

### 12.6 Endocrine disrupting properties

#### Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

### 12.7 Other adverse effects

#### Product:

Additional ecological information : The product is not considered hazardous for the environment.

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Product : Where possible recycling is preferred to disposal or incineration.

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## SECTION 14: Transport information

### 14.1 UN number or ID number

ADN : UN 3312  
ADR : UN 3312  
IMDG : UN 3312

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### 14.2 UN proper shipping name

**ADN** : GAS, REFRIGERATED LIQUID, FLAMMABLE, N.O.S.  
**ADR** : GAS, REFRIGERATED LIQUID, FLAMMABLE, N.O.S.  
(propane)  
**IMDG** : GAS, REFRIGERATED LIQUID, FLAMMABLE, N.O.S.  
(propane)

### 14.3 Transport hazard class(es)

**ADN** : 2  
**ADR** : 2  
**IMDG** : 2.1

### 14.4 Packing group

**ADN**  
Packing group : Not assigned by regulation  
Classification Code : 3F  
Hazard Identification Number : 223  
Labels : 2.1

**ADR**  
Packing group : Not assigned by regulation  
Classification Code : 3F  
Hazard Identification Number : 223  
Labels : 2.1  
Tunnel restriction code : (B/D)

**IMDG**  
Packing group : Not assigned by regulation  
Labels : 2.1  
EmS Code : F-D, S-U

### 14.5 Environmental hazards

**ADN**  
Environmentally hazardous : no

**ADR**  
Environmentally hazardous : no

**IMDG**  
Marine pollutant : no

### 14.6 Special precautions for user

Remarks : SDS: No specific instructions needed.

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

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

Remarks : Not applicable

## SECTION 15: Regulatory information

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

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

Category		Quantity 1	Quantity 2
P2	FLAMMABLE GASES	10 t	50 t

### 15.2 Chemical safety assessment

A Chemical Safety Assessment has been carried out for this substance.

## SECTION 16: Other information

### Full text of other abbreviations

### Further information

Other information : Changes since the last version are highlighted in the margin. This version replaces all previous versions.

Issuer : Borealis, Group Product Stewardship

Sources of key data used to compile the Safety Data Sheet : International Chemical Safety Card, Propane, November 2003, updated 2007 (<http://www.inchem.org/documents/icsc/icsc/eics0319.htm>)

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### Disclaimer

To the best of our knowledge, the information contained herein is accurate and reliable as of the date of publication; however we do not assume any liability whatsoever for the accuracy and completeness of such information.

**Borealis makes no warranties which extend beyond the description contained herein. Nothing herein shall constitute any warranty of merchantability or fitness for a particular purpose.**

**It is the customer's responsibility to inspect and test our products in order to satisfy itself as to the suitability of the products for the customer's particular purpose. The customer is responsible for the appropriate, safe and legal use, processing and handling of our products.**

No liability can be accepted in respect of the use of Borealis' products in conjunction with other materials. The information contained herein relates exclusively to our products when not used in conjunction with any third party materials.