

# 1-butene, liquefied, under pressure

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

### 1.1 Product identifier:

Product name	: 1-butene, liquefied, under pressure
Synonyms	: 1-butene; 1-n-butene; 1-n-butylene; 1-normal-butene; 1-normal-butylene; alpha-butene; alpha-butylene; but-1-ene; butylene (=1-butene); dimethylethylene (=1-butene); ethylethylene (=1-butene)
Registration number REACH	: 01-2119456615-34
Product type REACH	: Substance/mono-constituent
CAS number	: 106-98-9
EC index number	: 601-012-00-4
EC number	: 203-449-2
Molecular mass	: 56.11 g/mol
Formula	: C <sub>4</sub> H <sub>8</sub>

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

#### 1.2.1 Relevant identified uses

Industrial and professional use. Before use: carry out a risk assessment

#### 1.2.2 Uses advised against

No uses advised against known

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

#### Supplier of the safety data sheet

CHEMOGAS NV  
Westvaardijk 85  
B-1850 Grimbergen Belgium  
☎ +32 2 251 60 87  
✉ +32 2 252 17 51  
info@chemogas.com

#### Distributor of the product

CHEMOGAS NV  
Westvaardijk 85  
B-1850 Grimbergen Belgium  
☎ +32 2 251 60 87  
✉ +32 2 252 17 51  
info@chemogas.com

### 1.4 Emergency telephone number:

24h/24h (Telephone advice: English, French, German, Dutch):  
+32 14 58 45 45 (BIG)

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture:

Classified as dangerous according to the criteria of Regulation (EC) No 1272/2008

Class	Category	Hazard statements
Flam. Gas	category 1	H220: Extremely flammable gas.
Press. Gas	Liquefied gas	H280: Contains gas under pressure; may explode if heated.

### 2.2 Label elements:



Signal word	Danger
H-statements	H220 Extremely flammable gas.

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H280

Contains gas under pressure; may explode if heated.

## P-statements

P210

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

P381

Eliminate all ignition sources if safe to do so.

P377

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

P410 + P403

Protect from sunlight. Store in a well-ventilated place.

## 2.3 Other hazards:

May build up electrostatic charges: risk of ignition

May be ignited by sparks

Gas/vapour spreads at floor level: ignition hazard

May cause frostbites

Large spills/in enclosed spaces: risk of oxygen deficiency

May cause frostbites

## SECTION 3: Composition/information on ingredients

### 3.1 Substances:

Name REACH Registration No	CAS No EC No	Conc. (C)	Classification according to CLP	Note	Remark
but-1-ene 01-2119456615-34	106-98-9 203-449-2	C>99 %	Flam. Gas 1; H220 Press. Gas - Liquefied gas; H280	(1)(10)(2)	Mono-constituent

(1) For H-statements in full: see heading 16

(2) Substance with a Community workplace exposure limit

(10) Subject to restrictions of Annex XVII of Regulation (EC) No. 1907/2006

### 3.2 Mixtures:

Not applicable

## SECTION 4: First aid measures

### 4.1 Description of first aid measures:

#### General:

Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital.

#### After inhalation:

Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

#### After skin contact:

In case of frostbites: Wash immediately with lots of water (15 minutes)/shower. Remove clothing while washing. Do not apply (chemical) neutralizing agents. Do not remove clothing if it sticks to the skin. Cover wounds with sterile bandage. Consult a doctor/medical service. If burned surface > 10%: take victim to hospital.

#### After eye contact:

Rinse immediately with plenty of water for 15 minutes. Do not apply neutralizing agents. Take victim to an ophthalmologist. Consult a doctor/medical service.

#### After ingestion:

Not applicable.

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

#### 4.2.1 Acute symptoms

##### After inhalation:

EXPOSURE TO HIGH CONCENTRATIONS: Coughing. Irritation of the respiratory tract. Irritation of the nasal mucous membranes. Central nervous system depression. Headache. Nausea. Dizziness. Narcosis. Disturbances of consciousness. Respiratory difficulties.

##### After skin contact:

Frostbites.

##### After eye contact:

Frostbites.

##### After ingestion:

Not applicable.

#### 4.2.2 Delayed symptoms

No effects known.

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

If applicable and available it will be listed below.

## SECTION 5: Firefighting measures

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## 5.1 Extinguishing media:

### 5.1.1 Suitable extinguishing media:

Water spray. Polyvalent foam. BC powder. Carbon dioxide. Dry sand.

### 5.1.2 Unsuitable extinguishing media:

Solid water jet ineffective as extinguishing medium.

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

Upon combustion: CO and CO<sub>2</sub> are formed. Polymerizes on exposure to temperature rise: pressure rise and possible bursting of container.

## 5.3 Advice for firefighters:

### 5.3.1 Instructions:

If no hazard for/from the surroundings: controlled burning. If hazardous substances are nearby: consider extinguishment. Extinguish only if gas supply/leak can be shut afterwards. Cool tanks/drums with water spray/remove them into safety. Physical explosion risk: extinguish/cool from behind cover. Do not move the load if exposed to heat. After cooling: persistent risk of physical explosion.

### 5.3.2 Special protective equipment for fire-fighters:

Insulating gloves. Protective clothing. Large spills/in enclosed spaces: compressed air apparatus. Heat/fire exposure: compressed air/oxygen apparatus.

## SECTION 6: Accidental release measures

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

Keep upwind. Seal off low-lying areas. Close doors and windows of adjacent premises. Stop engines and no smoking. No naked flames or sparks. Spark- and explosionproof appliances and lighting equipment. Avoid ingress of water in the containers.

#### 6.1.1 Protective equipment for non-emergency personnel

See heading 8.2

#### 6.1.2 Protective equipment for emergency responders

Insulating gloves. Protective clothing. Large spills/in enclosed spaces: compressed air apparatus.

Suitable protective clothing

See heading 8.2

### 6.2 Environmental precautions:

Contain released substance, pump into suitable containers. Plug the leak, cut off the supply. Dam up the liquid spill. Tip the container on one side to stop the leakage. Try to reduce evaporation. Prevent spreading in sewers.

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

Prevent evaporation by covering with: powdered limestone. Scoop absorbed substance into closing containers. Damaged/cooled tanks must be emptied. Do not use compressed air for pumping over spills. Take collected spill to manufacturer/competent authority. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

### 6.4 Reference to other sections:

See heading 13.

## SECTION 7: Handling and storage

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

### 7.1 Precautions for safe handling:

Use spark-/explosionproof appliances and lighting system. Take precautions against electrostatic charges. Keep away from naked flames/heat. Keep away from ignition sources/sparks. Gas/vapour heavier than air at 20°C. Observe normal hygiene standards. Remove contaminated clothing immediately.

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

#### 7.2.1 Safe storage requirements:

Storage temperature: <50 °C. Store below 50°C. Keep out of direct sunlight. Ventilation at floor level. Fireproof storeroom. Provide for an automatic sprinkler system. Provide for a tub to collect spills. Provide the tank with earthing. Detached building. Meet the legal requirements.

#### 7.2.2 Keep away from:

Heat sources, ignition sources, combustible materials, oxidizing agents, (strong) acids, halogens.

#### 7.2.3 Suitable packaging material:

Steel, stainless steel, monel steel, carbon steel, aluminium, copper, zinc, nylon, polyethylene, polypropylene.

#### 7.2.4 Non suitable packaging material:

No data available

### 7.3 Specific end use(s):

If applicable and available, exposure scenarios are attached in annex. See information supplied by the manufacturer.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters:

#### 8.1.1 Occupational exposure

##### a) Occupational exposure limit values

If limit values are applicable and available these will be listed below.

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## Belgium

Butène (tous isomères)	Time-weighted average exposure limit 8 h	250 ppm
	Time-weighted average exposure limit 8 h	583 mg/m <sup>3</sup>

## USA (TLV-ACGIH)

Butenes, all isomers	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	250 ppm
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### b) National biological limit values

If limit values are applicable and available these will be listed below.

### 8.1.2 Sampling methods

If applicable and available it will be listed below.

### 8.1.3 Applicable limit values when using the substance or mixture as intended

If limit values are applicable and available these will be listed below.

### 8.1.4 DNEL/PNEC values

#### DNEL - Workers

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Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	769 mg/m <sup>3</sup>	
	Long-term local effects inhalation	1530 mg/m <sup>3</sup>	

#### DNEL - General population

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Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	163 mg/m <sup>3</sup>	
	Long-term local effects inhalation	918 mg/m <sup>3</sup>	

### 8.1.5 Control banding

If applicable and available it will be listed below.

## 8.2 Exposure controls:

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

### 8.2.1 Appropriate engineering controls

Use spark-/explosionproof appliances and lighting system. Take precautions against electrostatic charges. Keep away from naked flames/heat. Keep away from ignition sources/sparks. Before use: check for peroxides and eliminate them. Measure the concentration in the air regularly. Work under local exhaust/ventilation.

### 8.2.2 Individual protection measures, such as personal protective equipment

Observe normal hygiene standards. Do not eat, drink or smoke during work.

#### a) Respiratory protection:

High vapour/gas concentration: self-contained respirator.

#### b) Hand protection:

Insulated gloves.

- materials (good resistance)

Chloroprene rubber, neoprene, nitrile rubber, polyethylene, polyurethane, PVC, tetrafluoroethylene.

- materials (poor resistance)

Natural rubber, neoprene/natural rubber.

#### c) Eye protection:

Protective goggles.

#### d) Skin protection:

Protective clothing.

### 8.2.3 Environmental exposure controls:

See headings 6.2, 6.3 and 13

## SECTION 9: Physical and chemical properties

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

Physical form	Liquefied gas
Odour	Aromatic odour
	Mild odour
Odour threshold	7.7 ppm
	17.7 mg/m <sup>3</sup>
Colour	Colourless
Particle size	Not applicable (gas)
Explosion limits	1.6 - 10 vol %
	28 - 252 g/m <sup>3</sup>
Flammability	Extremely flammable gas.
Log Kow	2.4 ; Experimental value ; Equivalent to OECD 107
Dynamic viscosity	No data available
Kinematic viscosity	No data available
Melting point	-185 °C

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Boiling point	-6.0 °C
Flash point	No data available
Evaporation rate	Not applicable (gas)
Relative vapour density	1.94
Vapour pressure	2545 hPa ; 20 °C 6000 hPa ; 50 °C
Solubility	water ; 0.02 g/100 ml ; 25 °C
Relative density	0.60 ; -6 °C
Decomposition temperature	No data available
Auto-ignition temperature	385 °C
Explosive properties	No chemical group associated with explosive properties
Oxidising properties	No chemical group associated with oxidising properties
pH	Not applicable

## 9.2 Other information:

Minimum ignition energy	0.37 mJ
Critical temperature	146 °C
Critical pressure	40000 hPa
Surface tension	0.013 N/m ; -6 °C
Absolute density	625 kg/m <sup>3</sup> ; -6 °C

## SECTION 10: Stability and reactivity

### 10.1 Reactivity:

May build up electrostatic charges: risk of ignition. May be ignited by sparks. Gas/vapour spreads at floor level: ignition hazard.

### 10.2 Chemical stability:

Unstable on exposure to air.

### 10.3 Possibility of hazardous reactions:

Reacts slowly on exposure to air: peroxidation resulting in increased fire or explosion risk. Reacts violently with many compounds e.g.: with (some) halogens, with (some) halogens compounds, with (strong) oxidizers, with (some) acids and with oxygen compounds.

### 10.4 Conditions to avoid:

Use spark-/explosionproof appliances and lighting system. Take precautions against electrostatic charges. Keep away from naked flames/heat. Keep away from ignition sources/sparks.

### 10.5 Incompatible materials:

Combustible materials, oxidizing agents, (strong) acids, halogens.

### 10.6 Hazardous decomposition products:

Upon combustion: CO and CO<sub>2</sub> are formed.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects:

#### 11.1.1 Test results

#### Acute toxicity

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Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral						Data waiving	
Dermal						Data waiving	
Inhalation (gases)	LC50	OECD 403	> 10000 ppm	4 h	Rat (male/female)	Read-across	
Inhalation (gases)	LC50	OECD 403	> 22.948 mg/l	4 h	Rat (male/female)	Read-across	

#### Conclusion

Not classified for acute toxicity

#### Corrosion/irritation

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Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye						Data waiving	
Skin						Data waiving	

#### Conclusion

Not classified as irritating to the skin

Not classified as irritating to the eyes

Not classified as irritating to the respiratory system

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## Respiratory or skin sensitisation

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Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Skin						Data waiving	
Inhalation						Data waiving	

#### Conclusion

Not classified as sensitizing for skin

Not classified as sensitizing for inhalation

## Specific target organ toxicity

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Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral								Data waiving
Skin								Data waiving
Inhalation (gases)	NOAEC	OECD 422	8000 ppm		No effect	28 days (6h/day)	Rat (male/female)	Experimental value
Inhalation (gases)	NOAEC	OECD 422	18.4 mg/l		No effect	28 days (6h/day)	Rat (male/female)	Experimental value

#### Conclusion

Not classified for subchronic toxicity

## Mutagenicity (in vitro)

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Result	Method	Test substrate	Effect	Value determination
Negative with metabolic activation, negative without metabolic activation	Ames test	Bacteria (S.typhimurium)		Experimental value
Negative with metabolic activation, negative without metabolic activation	OECD 473	Rat lymphocytes		Read-across

## Mutagenicity (in vivo)

### 1-butene, liquefied, under pressure

Result	Method	Exposure time	Test substrate	Organ	Value determination
Not sensitizing					Read-across

## Carcinogenicity

### 1-butene, liquefied, under pressure

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Organ	Effect
Inhalation						Read-across		No carcinogenic effect
Dermal						Read-across		No carcinogenic effect
Oral						Read-across		No carcinogenic effect

## Reproductive toxicity

### 1-butene, liquefied, under pressure

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity	NOAEC	OECD 414	8000 ppm	28 days (6h/day)	Rat	No effect		Read-across
Maternal toxicity	NOAEC	OECD 414	8000 ppm	28 days (6h/day)	Rat (female)	No effect		Read-across
Effects on fertility	NOAEC	OECD 422	8000 ppm	28 days (6h/day)	Rat (male/female)	No effect		Experimental value

#### Conclusion CMR

Not classified for carcinogenicity

Not classified for mutagenic or genotoxic toxicity

Not classified for reprotoxic or developmental toxicity

## Toxicity other effects

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No (test)data available

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## Chronic effects from short and long-term exposure

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No effects known.

## SECTION 12: Ecological information

### 12.1 Toxicity:

#### 1-butene, liquefied, under pressure

No (test)data available

#### Conclusion

Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008

### 12.2 Persistence and degradability:

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##### Phototransformation air (DT50 air)

Method	Value	Conc. OH-radicals	Value determination
	0.5 day(s)	5E5 /cm <sup>3</sup>	Calculated value

##### Half-life soil (t1/2 soil)

Method	Value	Primary degradation/mineralisation	Value determination
			Not applicable (gas)

#### Conclusion

Readily biodegradable in water

### 12.3 Bioaccumulative potential:

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##### Log Kow

Method	Remark	Value	Temperature	Value determination
Equivalent to OECD 107		2.4		Experimental value

#### Conclusion

Low potential for bioaccumulation (Log Kow < 4)

### 12.4 Mobility in soil:

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##### (log) Koc

Parameter	Method	Value	Value determination
log Koc	Other	2.04	Calculated value

#### Conclusion

Highly mobile in soil

### 12.5 Results of PBT and vPvB assessment:

Substance does not meet the criteria of PBT, nor the criteria of vPvB according to Annex XIII of Regulation (EC) No 1907/2006, so is neither PBT nor vPvB.

### 12.6 Other adverse effects:

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##### Global warming potential (GWP)

Not included in the list of fluorinated greenhouse gases (Regulation (EC) No 517/2014)

##### Ozone-depleting potential (ODP)

Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009)

## SECTION 13: Disposal considerations

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

### 13.1 Waste treatment methods:

#### 13.1.1 Provisions relating to waste

Waste material code (Directive 2008/98/EC, Decision 2000/0532/EC).

16 05 04\* (gases in pressure containers and discarded chemicals: gases in pressure containers (including halons) containing dangerous substances).

Depending on branch of industry and production process, also other waste codes may be applicable. Hazardous waste according to Regulation (EU) No 1357/2014.

#### 13.1.2 Disposal methods

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Refer to manufacturer/supplier for information on recovery/ recycling. Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Do not discharge into drains or the environment.

## 13.1.3 Packaging/Container

Waste material code packaging (Directive 2008/98/EC).

15 01 10\* (packaging containing residues of or contaminated by dangerous substances).

## SECTION 14: Transport information

### Road (ADR)

#### 14.1 UN number:

UN number	1012
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#### 14.2 UN proper shipping name:

Proper shipping name	1-Butylene
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#### 14.3 Transport hazard class(es):

Hazard identification number	23
Class	2
Classification code	2F

#### 14.4 Packing group:

Packing group	
Labels	2.1

#### 14.5 Environmental hazards:

Environmentally hazardous substance mark	no
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#### 14.6 Special precautions for user:

Special provisions	662
Limited quantities	none.

### Rail (RID)

#### 14.1 UN number:

UN number	1012
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#### 14.2 UN proper shipping name:

Proper shipping name	1-Butylene
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#### 14.3 Transport hazard class(es):

Hazard identification number	23
Class	2
Classification code	2F

#### 14.4 Packing group:

Packing group	
Labels	2.1 (+13)

#### 14.5 Environmental hazards:

Environmentally hazardous substance mark	no
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#### 14.6 Special precautions for user:

Special provisions	662
Limited quantities	none.

### Inland waterways (ADN)

#### 14.1 UN number:

UN number	1012
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#### 14.2 UN proper shipping name:

Proper shipping name	1-Butylene
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#### 14.3 Transport hazard class(es):

Class	2
Classification code	2F

#### 14.4 Packing group:

Packing group	
Labels	2.1

#### 14.5 Environmental hazards:

Environmentally hazardous substance mark	no
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#### 14.6 Special precautions for user:

Special provisions	662
Limited quantities	none.

### Sea (IMDG/IMSBC)

#### 14.1 UN number:

UN number	1012
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#### 14.2 UN proper shipping name:

Proper shipping name	butylene
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## 14.3 Transport hazard class(es):

Class	2.1
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## 14.4 Packing group:

Packing group	
Labels	2.1

## 14.5 Environmental hazards:

Marine pollutant	-
Environmentally hazardous substance mark	no

## 14.6 Special precautions for user:

Special provisions	
Limited quantities	none.

## 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code:

Annex II of MARPOL 73/78	Not applicable
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## Air (ICAO-TI/IATA-DGR)

### 14.1 UN number:

UN number	1012
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### 14.2 UN proper shipping name:

Proper shipping name	Butylene
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### 14.3 Transport hazard class(es):

Class	2.1
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### 14.4 Packing group:

Packing group	
Labels	2.1

### 14.5 Environmental hazards:

Environmentally hazardous substance mark	no
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### 14.6 Special precautions for user:

Special provisions	A1
Passenger and cargo transport: limited quantities: maximum net quantity per packaging	

## SECTION 15: Regulatory information

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

#### European legislation:

VOC content Directive 2010/75/EU

VOC content	Remark
100 %	

REACH Annex XVII - Restriction

Subject to restrictions of Annex XVII of Regulation (EC) No. 1907/2006: restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles.

	Designation of the substance, of the group of substances or of the mixture	Conditions of restriction
but-1-ene	Substances classified as flammable gases category 1 or 2, flammable liquids categories 1, 2 or 3, flammable solids category 1 or 2, substances and mixtures which, in contact with water, emit flammable gases, category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids category 1, regardless of whether they appear in Part 3 of Annex VI to that Regulation or not.	1. Shall not be used, as substance or as mixtures in aerosol dispensers where these aerosol dispensers are intended for supply to the general public for entertainment and decorative purposes such as the following: — metallic glitter intended mainly for decoration, — artificial snow and frost, — “whoopee” cushions, — silly string aerosols, — imitation excrement, — horns for parties, — decorative flakes and foams, — artificial cobwebs, — stink bombs. 2. Without prejudice to the application of other Community provisions on the classification, packaging and labelling of substances, suppliers shall ensure before the placing on the market that the packaging of aerosol dispensers referred to above is marked visibly, legibly and indelibly with: “For professional users only”. 3. By way of derogation, paragraphs 1 and 2 shall not apply to the aerosol dispensers referred to Article 8 (1a) of Council Directive 75/ 324/EEC. 4. The aerosol dispensers referred to in paragraphs 1 and 2 shall not be placed on the market unless they conform to the requirements indicated.

#### National legislation The Netherlands

Waste identification (the Netherlands)	LWCA (the Netherlands): KGA category 06
Waterbeschikbaarheid	11

#### National legislation Germany

WGK	nwg; Classification non-water polluting in compliance with Verwaltungsvorschrift wassergefährdender Stoffe (VwVwS) of 27 July 2005 (Anhang 1)
TA-Luft	5.2.5

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## National legislation France

No data available

## National legislation Belgium

No data available

## Other relevant data

No data available

## 15.2 Chemical safety assessment:

A chemical safety assessment has been performed.

## SECTION 16: Other information

### Full text of any H-statements referred to under headings 2 and 3:

H220 Extremely flammable gas.

H280 Contains gas under pressure; may explode if heated.

(\*) = INTERNAL CLASSIFICATION BY BIG

PBT-substances = persistent, bioaccumulative and toxic substances

CLP (EU-GHS) Classification, labelling and packaging (Globally Harmonised System in Europe)

The information in this safety data sheet is based on data and samples provided to BIG. The sheet was written to the best of our ability and according to the state of knowledge at that time. The safety data sheet only constitutes a guideline for the safe handling, use, consumption, storage, transport and disposal of the substances/preparations/mixtures mentioned under point 1. New safety data sheets are written from time to time. Only the most recent versions may be used. Old versions must be destroyed. Unless indicated otherwise word for word on the safety data sheet, the information does not apply to substances/preparations/mixtures in purer form, mixed with other substances or in processes. The safety data sheet offers no quality specification for the substances/preparations/mixtures in question. Compliance with the instructions in this safety data sheet does not release the user from the obligation to take all measures dictated by common sense, regulations and recommendations or which are necessary and/or useful based on the real applicable circumstances. BIG does not guarantee the accuracy or exhaustiveness of the information provided and cannot be held liable for any changes by third parties. This safety data sheet is only to be used within the European Union, Switzerland, Iceland, Norway and Liechtenstein. Any use outside of this area is at your own risk. Use of this safety data sheet is subject to the licence and liability limiting conditions as stated in your BIG licence agreement or when this is failing the general conditions of BIG. All intellectual property rights to this sheet are the property of BIG and its distribution and reproduction are limited. Consult the mentioned agreement/conditions for details.

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