

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)  
(This safety data sheet is for information only as it does not  
comply with the official language requirements of Article 31 (5)  
of REACH nor does it provide the national information in sections  
8 and 15 as specified in Annex II of REACH.)

### Isobutane

Version number: 1.0

First version: 2023-06-30

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

##### 1.1 Product identifier

<b>Identification of the substance</b>	isobutane
<b>Trade name</b>	<b><u>Isobutane</u></b>
<b>Registration number (REACH)</b>	This information is not available.
<b>EC number</b>	200-857-2
<b>Index number in CLP Annex VI</b>	601-004-00-0
<b>CAS number</b>	75-28-5

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

<b>Relevant identified uses</b>	Combustible material Propellant
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##### 1.3 Details of the supplier of the safety data sheet

PROGAS GmbH & Co KG  
Westfalendamm 84-86  
D-44141 Dortmund  
Germany

Website: [www.progas-aerosol.de](http://www.progas-aerosol.de)

Tech. Service:  
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Hansastraße 54-56  
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Deutschland

Telephone: ++49 (0) 511-97996-14  
Telefax: ++49 (0) 511-97996-30

**e-mail (competent person)** [sdb@csb-compliance.com](mailto:sdb@csb-compliance.com)

Please do not use this e-mail address to ask for the latest safety data sheet. For this purpose contact  
PROGAS GmbH & Co KG.

**National contact** e-Mail: [michael.kick@progas.de](mailto:michael.kick@progas.de)

##### 1.4 Emergency telephone number

**Emergency information** +49 (0) 511-97996-62 (24h)  
As above or nearest toxicological information centre.

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## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

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

Classification				
Section	Hazard class	Category	Hazard class and category	Hazard statement
2.2	flammable gas	1A	Flam. Gas 1A	H220
2.5	gas under pressure	C	Press. Gas C	H280

For full text of abbreviations: see SECTION 16

#### The most important adverse physicochemical, human health and environmental effects

May displace oxygen and cause rapid suffocation.  
Victim may not be aware of asphyxiation.  
Contains gas under pressure; may explode if heated.

### 2.2 Label elements

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

**Signal word** danger

#### Pictograms

**GHS02**



#### Hazard statements

**H220** Extremely flammable gas.

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

#### Precautionary statements

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

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

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

**P410+P403** Protect from sunlight. Store in a well-ventilated place.

**Additional labelling requirements** see section 15 of the safety data sheet

### 2.3 Other hazards

#### Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

#### Endocrine disrupting properties

Not listed.

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## SECTION 3: Composition/information on ingredients

### 3.1 Substances

<b>Name of substance</b>	isobutane
<b>Identifiers</b>	
CAS No	75-28-5
EC No	200-857-2
Index No	601-004-00-0
<b>Molecular formula</b>	C <sub>4</sub> H <sub>10</sub>
<b>Molar mass</b>	58.12 g/mol

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### General notes

Self-protection of the first aider.  
Remove affected person from the danger area and lay down.  
Do not leave affected person unattended.  
Take off immediately all contaminated clothing.  
In all cases of doubt, or when symptoms persist, seek medical advice.

#### Following inhalation

Provide fresh air.  
Mouth to mouth resuscitation should be avoided. Use alternative methods, preferably with oxygen or compressed air driven apparatus.  
If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions.

#### Following skin contact

After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water and soap.  
Thaw frosted parts with lukewarm water. Do not rub affected area.

#### Following eye contact

Rinse cautiously with water for several minutes.  
Remove contact lenses, if present and easy to do. Continue rinsing.

#### Following ingestion

Rinse mouth. Do not induce vomiting.  
Get medical advice/attention if you feel unwell.

#### Notes for the doctor

None.

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

This information is not available.

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## 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, alcohol resistant foam, fire extinguishing powder

#### Unsuitable extinguishing media

water jet

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

Combustible.

Hazardous decomposition products: Section 10.

Contact with the product can cause burns and/or frostbite.

Contains gas under pressure; may explode if heated.

#### Hazardous combustion products

carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>)

### 5.3 Advice for firefighters

Keep containers cool with water spray.

In case of fire and/or explosion do not breathe fumes.

Co-ordinate firefighting measures to the fire surroundings.

Collect contaminated firefighting water separately.

Fight fire with normal precautions from a reasonable distance.

#### Special protective equipment for firefighters

Wear self-contained breathing apparatus

## SECTION 6: Accidental release measures

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

#### For non-emergency personnel

Remove persons to safety.

Ventilate affected area.

Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing.

#### For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

### 6.2 Environmental precautions

Remove from the water surface (e.g. skimming, sucking).

Keep away from drains, surface and ground water.

Retain contaminated washing water and dispose of it.

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## 6.3 Methods and material for containment and cleaning up

### Advice on how to clean up a spill

Collect spillage.

Absorbent material (e.g. sand, diatomaceous earth, acid binder, universal binder, sawdust, etc.).

### Other information relating to spills and releases

Place in appropriate containers for disposal.

Ventilate affected area.

## 6.4 Reference to other sections

Hazardous combustion products: see section 5.

Personal protective equipment: see section 8.

Incompatible materials: see section 10.

Disposal considerations: see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes.

#### Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation.

Keep away from sources of ignition - No smoking.

#### Specific notes/details

None.

#### Measures to protect the environment

Avoid release to the environment.

#### Advice on general occupational hygiene

Do not eat, drink and smoke in work areas.

Wash hands after use.

Preventive skin protection (barrier creams/ointments) is recommended.

Remove contaminated clothing and protective equipment before entering eating areas.

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

#### Flammability hazards

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

Take precautionary measures against static discharge.

Protect from sunlight.

#### Incompatible substances or mixtures

Incompatible materials: see section 10.

#### Protect against external exposure, such as

heat

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## Consideration of other advice

Keep away from food, drink and animal feeding stuffs.

## Ventilation requirements

Provision of sufficient ventilation.

## Specific designs for storage rooms or vessels

Keep container tightly closed and in a well-ventilated place.

Keep cool.

## Storage temperature

maximum storage temperature: 50 °C

## Packaging compatibilities

Only packagings which are approved (e.g. acc. to ADR) may be used.

## 7.3 Specific end use(s)

Combustible material.

Propellant.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limit values (Workplace Exposure Limits)

This information is not available

### 8.2 Exposure controls

#### Appropriate engineering controls

Use local and general ventilation.

#### Individual protection measures (personal protective equipment)

##### Eye/face protection

Wear eye/face protection. (EN 166).

##### Hand protection

Wear suitable gloves.

Chemical protection gloves are suitable, which are tested according to EN 374.

Check leak-tightness/impermeability prior to use.

For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

##### Body protection

(EN 13832, EN 340, EN 14605).

##### Respiratory protection

In case of inadequate ventilation wear respiratory protection.

(EN 136, EN 140, EN 14387, EN 143, EN 149).

##### Environmental exposure controls

Use appropriate container to avoid environmental contamination.

Keep away from drains, surface and ground water.

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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

<b>Physical state</b>	gaseous (compressed)
<b>Colour</b>	colourless
<b>Odour</b>	odourless
<b>Melting point/freezing point</b>	-159.4 °C not applicable
<b>Boiling point or initial boiling point and boiling range</b>	-11.73 °C at 1,013 hPa
<b>Flammability</b>	flammable gas in accordance with GHS criteria
<b>Lower and upper explosion limit</b>	44 g/m <sup>3</sup> - 210 g/m <sup>3</sup> / 3 vol% - 9.4 vol%
<b>Flash point</b>	-87 °C at 1,013 hPa
<b>Auto-ignition temperature</b>	460 °C
<b>Decomposition temperature</b>	not relevant
<b>pH (value)</b>	not determined
<b>Viscosity</b>	not relevant (gaseous)
<b>Solubility(ies)</b>	
Water solubility	53.5 mg/l at 20 °C not miscible in any proportion
<b>Partition coefficient n-octanol/water (log value)</b>	1.09 (pH value: 7, 20 °C)
<b>Vapour pressure</b>	3,019 Pa at 20 °C
<b>Density and/or relative density</b>	
Density	2.506 g/cm <sup>3</sup> at 15 °C
Relative vapour density	2.085 (air = 1)
<b>Particle characteristics</b>	not relevant (gaseous)

### 9.2 Other information

<b>Information with regard to physical hazard classes</b>	there is no additional information
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## Other safety characteristics

Temperature class (EU, acc. to ATEX)

T3

(maximum permissible surface temperature on the equipment: 200°C)

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Risk of ignition.

If heated:

Danger of explosion.

Gas under pressure.

Danger of bursting container.

### 10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

See below "Conditions to avoid".

### 10.3 Possibility of hazardous reactions

In case of insufficient ventilation and/or in use, may form flammable/explosive vapour-air mixture.

### 10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Contains gas under pressure; may explode if heated.

### 10.5 Incompatible materials

oxidisers

### 10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known.

Hazardous combustion products: see section 5.

## SECTION 11: Toxicological information

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

If not otherwise specified the classification is based on:

Animal studies; Evidence from any other toxicity tests; Expert judgement (weight of evidence determination).

#### Classification according to GHS (1272/2008/EC, CLP)

##### Acute toxicity

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.



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## **Skin corrosion/irritation**

Classification could not be established because:  
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

## **Serious eye damage/eye irritation**

Classification could not be established because:  
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

## **Respiratory or skin sensitisation**

### **Skin sensitisation**

Classification could not be established because:  
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

### **Respiratory sensitisation**

Classification could not be established because:  
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

## **Germ cell mutagenicity**

Classification could not be established because:  
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

## **Carcinogenicity**

Classification could not be established because:  
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

## **Reproductive toxicity**

Classification could not be established because:  
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

## **Specific target organ toxicity - single exposure**

Classification could not be established because:  
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

## **Specific target organ toxicity - repeated exposure**

Classification could not be established because:  
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

## **Aspiration hazard**

Shall not be classified as presenting an aspiration hazard.

## **11.2 Information on other hazards**

### **Endocrine disrupting properties**

Not listed.

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## SECTION 12: Ecological information

### 12.1 Toxicity

#### Aquatic toxicity (acute)

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

Endpoint	Exposure time	Value	Species	Method	Source
LC50	48 h	14.22 mg/l	aquatic invertebrates	Qsar	ECHA
LC50	96 h	24.11 mg/l	fish	Qsar	ECHA
EC50	96 h	7.71 mg/l	green algae	(Q)SAR	ECHA

#### Aquatic toxicity (chronic)

No data available.

### 12.2 Persistence and degradability

#### Biodegradation

The substance is readily biodegradable.

#### Persistence

No data available.

### 12.3 Bioaccumulative potential

#### n-octanol/water (log KOW)

1.09 (pH value: 7, 20 °C)  
(ECHA)

### 12.4 Mobility in soil

No data available.

### 12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

### 12.6 Endocrine disrupting properties

Not listed.

### 12.7 Other adverse effects

Data are not available.

#### Remarks

Wassergefährdungsklasse, WGK (water hazard class): nwg

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

This material and its container must be disposed of as hazardous waste.

#### Sewage disposal-relevant information

Do not empty into drains.

#### Waste treatment of containers/packagings

Completely emptied packages can be recycled.  
Handle contaminated packages in the same way as the substance itself.

#### Remarks

Please consider the relevant national or regional provisions.

## SECTION 14: Transport information

### 14.1 UN number or ID number

ADR/RID/ADN UN1969

IMDG-Code UN1969

ICAO-TI UN1969

### 14.2 UN proper shipping name

ADR/RID/ADN ISOBUTANE

IMDG-Code ISOBUTANE

ICAO-TI Isobutane

### 14.3 Transport hazard class(es)

ADR/RID/ADN 2 (2.1)

IMDG-Code 2.1

ICAO-TI 2.1

### 14.4 Packing group

-

### 14.5 Environmental hazards

environmentally hazardous (ADN)

### 14.6 Special precautions for user

-

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

### 14.8 Information for each of the UN Model Regulations


**Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)**

#### Additional information

Particulars in the transport document UN1969, ISOBUTANE, 2.1, (B/D)

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Classification code	2F
Danger label(s)	2.1
	
Special provisions (SP)	392, 657, 662, 674
Excepted quantities (EQ)	E0
Limited quantities (LQ)	0
Transport category (TC)	2
Tunnel restriction code (TRC)	B/D
Hazard identification No	23

## **European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (ADN) Additional information**

Number of cones/blue lights	1
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## **International Maritime Dangerous Goods Code (IMDG) Additional information**

Marine pollutant	-
Danger label(s)	2.1
	
Special provisions (SP)	392
Excepted quantities (EQ)	E0
Limited quantities (LQ)	0
EmS	F-D, S-U
Stowage category	E

## **International Civil Aviation Organization (ICAO-IATA/DGR) Additional information**

Danger label(s)	2.1
	
Special provisions (SP)	A1
Excepted quantities (EQ)	E0

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## SECTION 15: Regulatory information

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

#### Relevant provisions of the European Union (EU)

#### Restrictions according to REACH, Annex XVII

Name	Name acc. to inventory	CAS No	Restriction
isobutane	flammable / pyrophoric	-	R40

#### Legend

- R40
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,
    - 'whoopie' 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 (2).
  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.

#### List of substances subject to authorisation (REACH, Annex XIV) / SVHC - candidate list

Not listed.

#### Seveso Directive

2012/18/EU (Seveso III)			
No	Dangerous substance/hazard categories	Qualifying quantity (tonnes) for the application of lower and upper-tier requirements	Notes
P2	flammable gases	10                      50	45)

#### Notation

45) flammable gases, category 1 or 2

#### Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

Not listed.

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## Regulation on the marketing and use of explosives precursors

Not listed.

## Regulation on drug precursors

Not listed.

## Regulation on substances that deplete the ozone layer (ODS)

Not listed.

## Regulation concerning the export and import of hazardous chemicals (PIC)

Not listed.

## Regulation on persistent organic pollutants (POP)

Not listed.

## 15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance by the supplier.

## SECTION 16: Other information

### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)
ADR/RID/ADN	Agreements concerning the International Carriage of Dangerous Goods by Road/Rail/Inland Waterways (ADR/RID/ADN)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DGR	Dangerous Goods Regulations (see IATA/DGR)
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association

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Abbr.	Descriptions of used abbreviations
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
SVHC	Substance of Very High Concern
vPvB	Very Persistent and very Bioaccumulative

## Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures.  
Regulation (EC) No. 1907/2006 (REACH).

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN).

International Maritime Dangerous Goods Code (IMDG).

Dangerous Goods Regulations (DGR) for the air transport (IATA).

## List of relevant phrases (code and full text as stated in section 2 and 3)

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

## Responsible for the safety data sheet

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## Disclaimer

This information is based upon the present state of our knowledge.

This SDS has been compiled and is solely intended for this product.