

SAFETY DATA SHEET



Revision: 4.0 Date: 03.06.2019



ACCORDING TO EC-REGULATIONS 1907/2006 (REACH), 1272/2008 (CLP) & 2015/830

ISOBUTANE V8001a

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

1.1 Product identifier	
Product Name	ISOBUTANE
Product Description	V8001a- ISOBUTANE- ISOBUTANE
Trade Name	ISOBUTANE
Product code	ISOBUT
CAS No.	75-28-5
EC No.	200-857-2
REACH Registration No.	Not applicable
1.2 Relevant identified uses of the substance or mixture and uses advised against	
Identified Use(s)	Fuel for engines. Blend component.
Uses Advised Against	Anything other than the above.
1.3 Details of the supplier of the safety data sheet	
Company Identification	Vitol SA Place des Bergues 3 P.O. Box 2056 1211 Geneva 1 Switzerland
Telephone	+31 10 498 7200
Fax	+31 10 452 9545
E-Mail (competent person)	xreach@vitol.com
1.4 Emergency telephone number	
Emergency Phone No.	+44 (0) 1235 239 670, 24/7
Languages spoken	All official European languages.

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture	
2.1.1 Regulation (EC) No. 1272/2008 (CLP)	Flam. Gas 1; H220 Gases under pressure; H280
2.2 Label elements	
Product Name	According to Regulation (EC) No. 1272/2008 (CLP) V8001a- ISOBUTANE- ISOBUTANE
Hazard Pictogram(s)	 
Signal Word(s)	Danger
Hazard Statement(s)	H220: Extremely flammable gas. H280: Contains gas under pressure; may explode if heated.
Precautionary Statement(s)	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. P410+P403: Protect from sunlight. Store in a well-ventilated place.
2.3 Other hazards	The vapour is heavier than air; beware of pits and confined spaces. Vapour may

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create explosive atmosphere. The vapour may have narcotic effect. Frostbite (cold burn).

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances Substances in preparations / mixtures

SUBSTANCE	CAS No.	EC No.	REACH Registration No.	%W/W
Isobutane (<0.1% butadiene)	75-28-5	200-857-2	Not yet assigned in the supply chain	100

SECTION 4: FIRST AID MEASURES



4.1 Description of first aid measures

Inhalation

IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If irritation develops and persists, get medical attention.

Skin Contact

IF ON SKIN: Remove clothing and wash thoroughly before use. Wash affected skin with soap and water. If skin irritation or rash occurs: Get medical advice/attention. Frostbite (cold burn): Do not attempt to remove clothing that adheres to the skin due to freezing. Thaw frosted parts with lukewarm water. Do not rub affected area. Seek medical advice.

Eye Contact

IF IN EYES: Flush eyes with water for at least 15 minutes while holding eyelids open. Get medical attention if eye irritation develops or persists. Frostbite (cold burn): Obtain immediate medical attention. Treatment by an ophthalmologist due to possible caustic burn of the eyes may be required.

Ingestion

IF SWALLOWED: Rinse mouth. Give 200-300mls (half pint) water to drink. Never give anything by mouth to an unconscious person. Do not induce vomiting. Get medical advice/attention if you feel unwell.

4.2 Most important symptoms and effects, both acute and delayed

Frostbite (cold burn). The vapour may have narcotic effect.

4.3 Indication of any immediate medical attention and special treatment needed

Unlikely to be required but if necessary treat symptomatically.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable Extinguishing Media

Foam, CO2 or dry powder.

Unsuitable extinguishing Media

Do not use water jet. Direct water jet may spread the fire.

5.2 Special hazards arising from the substance or mixture

Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Vapour may create explosive atmosphere. The vapour is heavier than air; beware of pits and confined spaces. Combustion or thermal decomposition will evolve very toxic, irritant and flammable vapours. Hazardous decomposition product(s): Carbon monoxide, Carbon dioxide, Aldehydes, Ketones, Hydrogen, Alkene, Methane, A mixture of solid and liquid particulates and gases including unidentified organic and inorganic compounds.

Compressed gas

Contains gas under pressure; may explode if heated. Sealed containers may rupture explosively if hot. Do not pierce or burn, even after use.

5.3 Advice for fire-fighters

Fight fire with normal precautions from a reasonable distance. Fire fighters should wear complete protective clothing including self-contained breathing apparatus. Keep containers cool by spraying with water if exposed to fire. Avoid release to the environment.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Shut off source of leak if safe to do so. Eliminate all ignition sources if safe to do so. Ensure adequate ventilation. Do not breathe vapour. Stay upwind/keep

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		distance from source. In case of inadequate ventilation wear respiratory protection. Avoid all contact. Wear suitable protective clothing. Contaminated clothing should be thoroughly cleaned. The vapour is heavier than air; beware of pits and confined spaces. Danger of flashback. Take precautionary measures against static discharge. Do not use sparking tools. Spillage can create tripping or slipping hazards for personnel, or skidding hazards for vehicles. Only trained and properly protected personnel must be involved in clean-up operations. Avoid release to the environment. Contain the spillage. Any large spillage into watercourses must be alerted to the regulatory authority responsible for environmental protection or other regulatory body.
6.2	Environmental precautions	
6.3	Methods and material for containment and cleaning up	Only trained and properly protected personnel must be involved in clean-up operations.
	Small scale:	Contain spillages with sand, earth or any suitable adsorbent material. Allow small spillages to evaporate provided there is adequate ventilation. Transfer to a lidded container for disposal or recovery. Ventilate the area and wash spill site after material pick-up is complete.
	Large scale:	In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion. Notify police and fire brigade as soon as possible.
6.4	Reference to other sections	See Section: 8,13

SECTION 7: HANDLING AND STORAGE

7.1	Precautions for safe handling	Eliminate sources of ignition. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. The vapour is heavier than air; beware of pits and confined spaces. Danger of flashback. Take precautionary measures against static discharge. Do not use sparking tools. Provide adequate ventilation, including appropriate local extraction if dusts, fumes or vapours are likely to be evolved. In case of inadequate ventilation wear respiratory protection. Wear suitable protective clothing. Do not breathe vapour. Avoid all contact. Wash hands and exposed skin thoroughly after handling. Do not eat, drink or smoke at the work place. Wash contaminated clothing before reuse.
7.2	Conditions for safe storage, including any incompatibilities	Store in a cool/low-temperature, well-ventilated (dry) place away from heat and ignition sources. Ensure adequate earthing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
	Storage temperature	Keep cool.
	Incompatible materials	Strong oxidising agents. Keep away from heat and sources of ignition.
7.3	Specific end use(s)	See Section: 1.2

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1	Control parameters	
8.1.1	Occupational Exposure Limits	None assigned.
8.1.2	Biological limit value	Not established.
8.1.3	PNECs and DNELs	Not established.
8.2	Exposure controls	
8.2.1	Appropriate engineering controls	Provide adequate ventilation, including appropriate local extraction if dusts, fumes or vapours are likely to be evolved.
8.2.2	Individual protection measures, such as personal protective equipment (PPE)	Keep good industrial hygiene. Do not eat, drink or smoke at the work place.

Eye/face protection



Wear eye protection with side protection (EN166).

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Skin protection



Hand protection: Wear impervious gloves (EN374). Breakthrough time of the glove material: refer to the information provided by the gloves' producer.

Respiratory protection



In case of inadequate ventilation wear respiratory protection. Recommended: BS EN 14387:2004+A1

Thermal hazards

Not applicable.

8.2.3 Environmental Exposure Controls

Avoid release to the environment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Liquefied gas. Colourless.
Odour	Sweet.
Odour Threshold	Not established.
pH	Not applicable
Melting Point/Freezing Point	- 159.6 °C
Initial boiling point and boiling range	- 11.6 °C
Flash point	< - 20 °C
Evaporation Rate	Not applicable.
Flammability (solid, gas)	Extremely flammable gas.
Upper/lower flammability or explosive limits	Flammable Limits (Lower) (%v/v): 1.9 Flammable Limits (Upper) (%v/v): 15
Vapour pressure	>210,000 pascal @ 20°C
Vapour density	2.007
Relative density	Not established.
Solubility(ies)	Water: 0.054 g/l @ 20°C
Partition coefficient: n-octanol/water	Log Pow: 2.36-2.9
Auto-ignition temperature	410 - 550 °C
Decomposition Temperature	Not established.
Viscosity	Not established.
Explosive properties	Vapour may create explosive atmosphere.
Oxidising properties	Not oxidising.

9.2 Other information

No information available.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity	Not determined. Stable under normal conditions.
10.2 Chemical stability	Stable under normal conditions.
10.3 Possibility of hazardous reactions	Not determined. No information available.
10.4 Conditions to avoid	Keep away from heat and sources of ignition.
10.5 Incompatible materials	Keep away from: Strong oxidising agents.
10.6 Hazardous decomposition product(s)	Combustion products: Carbon monoxide, Carbon dioxide, Aldehydes, Ketones, Hydrogen, Alkene, Methane, A mixture of solid and liquid particulates and gases including unidentified organic and inorganic compounds.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

Ingestion

Inhalation

Based upon the available data, the classification criteria are not met.
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LC50 Inhalation (rat): 570,000 ppm/ 15 minutes.

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Skin Contact	Based upon the available data, the classification criteria are not met.
Skin corrosion/irritation	Based upon the available data, the classification criteria are not met.
Serious eye damage/irritation	Based upon the available data, the classification criteria are not met.
Respiratory or skin sensitization	Based upon the available data, the classification criteria are not met.
Germ cell mutagenicity	Based upon the available data, the classification criteria are not met. There is no evidence of mutagenic potential. Contains: <0.1% butadiene
Carcinogenicity	Based upon the available data, the classification criteria are not met. No evidence of carcinogenicity. Contains: <0.1% butadiene
Reproductive toxicity	Based upon the available data, the classification criteria are not met. No evidence of reproductive effects.
STOT - single exposure	Based upon the available data, the classification criteria are not met.
STOT - repeated exposure	Based upon the available data, the classification criteria are not met.
Aspiration hazard	Based upon the available data, the classification criteria are not met.
11.2 Other information	None.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity	Based upon the available data, the classification criteria are not met. LC ₅₀ (Fish): > 1000 mg/l/96h
12.2 Persistence and degradability	Bioconcentration factor (BCF) : 1.57-1.97
12.3 Bioaccumulative potential	The product has low potential for bioaccumulation.
12.4 Mobility in soil	The product has low mobility in soil.
12.5 Results of PBT and VPVB assessment	Not classified as PBT or vPvB.
12.6 Other adverse effects	None known.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods	Disposal should be in accordance with local, state or national legislation. Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point.
13.2 Additional Information	Containers of this material may be hazardous when empty since they retain product residue. Do not pierce or burn, even after use.

SECTION 14: TRANSPORT INFORMATION

	ADR/RID	IMDG	IATA/ICAO
14.1 UN number	1969	1969	1969
14.2 UN proper shipping name	ISOBUTANE	ISOBUTANE	ISOBUTANE
14.3 Transport hazard class(es)	2	2	2
14.4 Packing group	None assigned.	None assigned.	None assigned.
14.5 Environmental hazards	Not classified.	Not classified.	Not classified.
14.6 Special precautions for user	See Section: 2		
14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable	Not applicable	Not applicable

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture	
15.1.1 EU regulations Authorisations and/or Restrictions On Use	None - Contains: <0.1% butadiene
15.1.2 National regulations Germany	Water hazard class: Not hazardous
15.2 Chemical Safety Assessment	None.

SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: Header and Section 1.3

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References: Existing Safety Data Sheet (SDS). This Safety Data Sheet was prepared in accordance with EC Regulation (EC) 1907/2006 (REACH), 1272/2008 (CLP) & 453/2010. Existing ECHA registration for ISOBUTANE (CAS No. 175-28-5)

LEGEND

LTEL	Long Term Exposure Limit
STEL	Short Term Exposure Limit
DNEL	Derived No Effect Level
PNEC	Predicted No Effect Concentration
PBT	PBT: Persistent, Bioaccumulative and Toxic
vPvB	very Persistent and very Bioaccumulative

Training advice: Consideration should be given to the work procedures involved and the potential extent of exposure as they may determine whether a higher level of protection is required.

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