

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

1.1. Product identifier

Product form : Substance
 Name : ISOBUTANE
 EC-No. : 200-857-2
 CAS-No. : 75-28-5
 REACH registration No : 01-2119485395
 Product code : 101302000
 Synonyms : Novexpans isobutane ; NovaSpray isobutane

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

1.2.1. Relevant identified uses

Use of the substance/mixture : Blowing agent
 Aerosol jet

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Supplier

Dehon Service SAS
 26 Avenue du Petit Parc
 94683 VINCENNES Cedex - France
 T 01 43 98 75 00 - F 01 43 98 21 51
ContactFDS@climalife.dehon.com

1.4. Emergency telephone number

Emergency number : +33 (0) 1 72 11 00 03

Country	Organisation/Company	Address	Emergency number	Comment
United Kingdom	National Poisons Information Service (Birmingham Centre) City Hospital	Dudley Road B18 7QH Birmingham	0344 892 0111	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flam. Gas 1 H220
 Press. Gas (Liq.) H280

Full text of hazard classes and H-statements : see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS02

Signal word (CLP) :

Danger

Hazard statements (CLP) :

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

Precautionary statements (CLP) :

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.

2.3. Other hazards

Other hazards not contributing to the classification : May cause suffocation by reducing oxygen available for breathing. Contact with the liquid the may cause cold burns/frostbite.

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SECTION 3: Composition/information on ingredients

3.1. Substances

Name : ISOBUTANE
CAS-No. : 75-28-5
EC-No. : 200-857-2

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
isobutane (containing < 0,1 % 1,3-butadiene (203-450-8))	(CAS-No.) 75-28-5 (EC-No.) 200-857-2 (EC Index-No.) 601-004-00-0 (REACH-no) 01-2119485395-27	> 95	Flam. Gas 1, H220 Press. Gas (Liq.), H280

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a poison center or a doctor if you feel unwell.

First-aid measures after skin contact : In the event of contact with the liquid: treat resulting frostbite as a burn. Wash skin thoroughly with mild soap and water. Take off immediately all contaminated clothing. If skin burns appear, call a doctor immediately.

First-aid measures after eye contact : Rinse immediately and thoroughly, pulling the eyelids well away from the eye (15 minutes minimum).

First-aid measures after ingestion : Rinse mouth out with water. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor.

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

Symptoms/effects after inhalation : Dizziness, headaches, nausea.

Symptoms/effects after skin contact : Burns.

Symptoms/effects after eye contact : Tingling sensation. Lacrimation. Rednesses.

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Carbon dioxide. Foam. Dry powder.

Unsuitable extinguishing media : Strong water jet.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Extremely flammable gas. Heating will cause a rise in pressure with a risk of bursting. The vapours are denser than air and may travel along the ground. Distance ignition possible.

5.3. Advice for firefighters

Firefighting instructions : Cool down the containers exposed to heat with a water spray. Close the valve if possible.

Protection during firefighting : Impermeable boots and protective equipment. Self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Stop the leak. Evacuate the danger area. Avoid contact with skin and eyes. Do not breathe smoke. Only qualified personnel equipped with suitable protective equipment may intervene. Remove all sources of ignition.

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Eliminate all ignition sources if safe to do so. In case of important spillage : Local evacuation is necessary (for people in close proximity to the spillage area).

6.2. Environmental precautions

Control the vapours with a fine water spray.

6.3. Methods and material for containment and cleaning up

For containment : Ventilate spillage area.

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6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection".

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: Ensure good ventilation of the work station. Use non-sparking tools. Earth the equipment used to transfer the product. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wear personal protective equipment. Avoid contact with skin and eyes.
Hygiene measures	: Always wash hands after handling the product. Do not drink, eat or smoke in the workplace.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	: Store in a well-ventilated place. Keep away from ignition sources. Store in original container.
Incompatible products	: Oxidizing materials. Oxidizing materials. Strong bases.
Packaging materials	: Carbon steel.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

isobutane (containing < 0,1 % 1,3-butadiene (203-450-8)) (75-28-5)

Austria - Occupational Exposure Limits

Local name	Butan (beide Isomeren): Isobutan (R 600a)
MAK (mg/m ³)	1900 mg/m ³
MAK (ppm)	800 ppm
MAK Short time value (mg/m ³)	3800 mg/m ³
MAK Short time value (ppm)	1600 ppm
Regulatory reference	BGBl. II Nr. 186/2015

Belgium - Occupational Exposure Limits

Local name	Hydrocarbures aliphatiques sous forme gazeuse : (Alcanes C1-C4)
Limit value (ppm)	1000 ppm
Regulatory reference	Koninklijk besluit/Arrêté royal 11/03/2002

Finland - Occupational Exposure Limits

Local name	i-Butaani (2-Metyylipropaani)
HTP-arvo (8h) (mg/m ³)	1900 mg/m ³
HTP-arvo (8h) (ppm)	800 ppm
HTP-arvo (15 min)	2400 mg/m ³
HTP-arvo (15 min) (ppm)	1000 ppm
Huomautus (FI)	liite 4 (HAPPEA SYRJÄYTTÄMÄLLÄ TUKEHDUTTAVAT KAASUT)
Regulatory reference	HTP-ARVOT 2016 (Sosiaali- ja terveysministeriö)

Germany - Occupational Exposure Limits (TRGS 900)

TRGS 900 Local name	Isobutan
Occupational exposure limit value (mg/m ³)	2400 mg/m ³
Occupational exposure limit value (ppm)	1000 ppm
Limitation of exposure peaks	4(II)
TRGS 900 Remark	DFG
TRGS 900 Regulatory reference	TRGS900

Portugal - Occupational Exposure Limits

Local name	Butano, todos os isómeros
OEL STEL (ppm)	1000 ppm

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Regulatory reference	Norma Portuguesa NP 1796:2014
Slovakia - Occupational Exposure Limits	
Local name	bután s obsahom $\geq 0,1\%$ butadiénu (n-bután) (izo-bután)
NPHV (priemerná) (mg/m ³)	2400 mg/m ³
NPHV (priemerná) (ppm)	1000 ppm
Regulatory reference	Nariadenie vlády č. 355/2006 Z. z. (Zmena: 83/2015 Z. z.)
Switzerland - Occupational Exposure Limits	
Local name	iso-Butan
MAK (mg/m ³)	1900 mg/m ³
MAK (ppm)	800 ppm
KZGW (mg/m ³)	7600 mg/m ³
KZGW (ppm)	3200 ppm
Remark	ZNS ^{KT}
Regulatory reference	SUVA - Grenzwerte am Arbeitsplatz 2016

8.2. Exposure controls

Hand protection:
Nitrile-rubber protective gloves
Eye protection:
Safety glasses with side shields
Skin and body protection:
Protective non-flammable and resistant to chemical penetration clothing
Respiratory protection:
If the occupational exposure limit is exceeded: Gas mask with filter type AX. In a confined area : Self-contained breathing apparatus

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Gas
Colour	: Colourless.
Odour	: Hydrocarbon-like.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: -160 °C
Freezing point	: No data available
Boiling point	: -11.7 °C
Flash point	: -87 °C
Auto-ignition temperature	: 460 °C
Decomposition temperature	: No data available
Flammability (solid, gas)	: Extremely flammable gas.
Vapour pressure	: 3.2 bar (20 °C)
Vapour pressure at 50 °C	: 6.8 bar (50 °C)
Relative vapour density at 20 °C	: 2
Relative density	: No data available
Density	: 0.56 g/cm ³ (20 °C)
Solubility	: Insoluble in water.
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: Not explosive.
Oxidising properties	: Non oxidizing.

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Lower explosive limit (LEL) : 1.8 vol %
Upper explosive limit (UEL) : 8.4 vol %

9.2. Other information

Gas group : Press. Gas (Liq.)

SECTION 10: Stability and reactivity

10.1. Reactivity

No data available.

10.2. Chemical stability

Stable at ambient temperature and under normal conditions of use.

10.3. Possibility of hazardous reactions

No information available.

10.4. Conditions to avoid

May explode or ignite : on contact with incompatible materials.

10.5. Incompatible materials

Oxidizing materials. Combustible materials. Strong bases.

10.6. Hazardous decomposition products

On thermal decomposition (pyrolysis), releases : Carbon oxides (CO, CO₂).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified
Additional information : Asphyxiating

isobutane (containing < 0,1 % 1,3-butadiene (203-450-8)) (75-28-5)

LC50 inhalation rat (mg/l)	658 mg/l/4h
Skin corrosion/irritation	: Not classified
Additional information	: Contact with the liquid the may cause cold burns/frostbite
Serious eye damage/irritation	: Not classified
Additional information	: Contact with the liquefied gas may cause severe ocular lesions
Respiratory or skin sensitisation	: No sensitizing effect known
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute) : Not classified
Hazardous to the aquatic environment, long-term (chronic) : Not classified

12.2. Persistence and degradability

isobutane (containing < 0,1 % 1,3-butadiene (203-450-8)) (75-28-5)

Persistence and degradability	< 60 % biodegradation after 28 days.
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12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

Component

isobutane (containing < 0,1 % 1,3-butadiene (203-450-8)) (75-28-5)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
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12.6. Other adverse effects

Other adverse effects : ODP (R-11=1)=0.

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SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Refer to manufacturer or supplier for information on recovery or recycling.
Additional information : The user's attention is drawn to the possible existence of specific european, national or local regulations regarding disposal.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	RID
14.1. UN number			
UN 1969	UN 1969	UN 1969	UN 1969
14.2. UN proper shipping name			
ISOBUTANE	ISOBUTANE	Isobutane	ISOBUTANE
Transport document description			
UN 1969 ISOBUTANE, 2.1, (B/D)	UN 1969 ISOBUTANE, 2.1	UN 1969 Isobutane, 2.1	UN 1969 ISOBUTANE, 2.1
14.3. Transport hazard class(es)			
2.1	2.1	2.1	2.1
			
14.4. Packing group			
Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards			
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No
No supplementary information available			

14.6. Special precautions for user

Overland transport

Classification code (ADR) : 2F
Special provisions (ADR) : 657, 660, 662
Limited quantities (ADR) : 0
Tank code (ADR) : PxBN(M)
Transport category (ADR) : 2
Hazard identification number (Kemler No.) : 23
Orange plates :



Tunnel restriction code (ADR) : B/D
EAC code : 2YE

Transport by sea

EmS-No. (Fire) : F-D
EmS-No. (Spillage) : S-U

Air transport

PCA Limited quantities (IATA) : Forbidden
PCA limited quantity max net quantity (IATA) : Forbidden
PCA packing instructions (IATA) : Forbidden
PCA max net quantity (IATA) : Forbidden
CAO packing instructions (IATA) : 200
CAO max net quantity (IATA) : 150kg

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Special provisions (IATA) : A1

Rail transport

Special provisions (RID) : 657, 660, 662
Limited quantities (RID) : 0
Transport category (RID) : 2
Colis express (express parcels) (RID) : CE3
Hazard identification number (RID) : 23

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

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

No REACH Annex XVII restrictions

ISOBUTANE is not on the REACH Candidate List

ISOBUTANE is not on the REACH Annex XIV List

ISOBUTANE is not subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

ISOBUTANE is not subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

15.1.2. National regulations

Germany

Reference to AwSV : Water hazard class (WGK) nwg, Non-hazardous to water (Classification according to AwSV; ID No. 562)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

Denmark

Class for fire hazard : Class I-1

Store unit : 1 liter

Classification remarks : F+ <Flam. Gas 1; Press. Gas (Liq.)>; Emergency management guidelines for the storage of flammable liquids must be followed

Danish National Regulations : Young people below the age of 18 years are not allowed to use the product

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Indication of changes:

Section	Changed item	Change	Comments
1.1	Article number	Modified	
1.3	Supplier	Modified	

Full text of H- and EUH-statements:

Flam. Gas 1	Flammable gases, Category 1
Press. Gas (Liq.)	Gases under pressure : Liquefied gas
H220	Extremely flammable gas.
H280	Contains gas under pressure; may explode if heated.

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SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.