

SECTION 1 Identification

1.1. GHS Product identifier

Product form	: Substance
Substance name	: Isobutane
Chemical name	: isobutane
CAS-No.	: 75-28-5
Product code	: 4175-31, 4175-31C
Formula	: C4H10

1.2. Other means of identification

Synonyms : 2-Methylpropane / Propane, 2-methyl- / isobutane (containing $\geq 0,1$ % butadiene)

1.3. Recommended use of the chemical and restrictions on use

Recommended use : Refrigerant

1.4. Supplier's details

Importer

Nu-Calgon
2611 Schuetz Road
St. Louis, MO
63043
US
T 314-469-7000 / 800-554-5499
www.nucalgon.com

1.5. Emergency phone number

Emergency number : 1-800-424-9300 (CHEMTREC)

SECTION 2 Hazard identification

2.1. Classification of the substance or mixture

Classification (GHS CA/US)

Flammable gases, Category 1A
Gases under pressure: Liquefied gas
Simple asphyxiant, Category 1

Extremely flammable gas.
Contains gas under pressure; may explode if heated.
May displace oxygen and cause rapid suffocation.

2.2. GHS label elements, including precautionary statements

GHS CA/US labeling

Hazard pictograms (GHS CA/US) :



Signal word (GHS CA/US) : Danger

Hazard statements (GHS CA/US) : Extremely flammable gas
Contains gas under pressure; may explode if heated
May displace oxygen and cause rapid suffocation

Precautionary statements (GHS CA/US) : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Leaking gas fire: Do not extinguish, unless leak can be stopped safely.

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In case of leakage, eliminate all ignition sources.
Store in a well-ventilated place.
Protect from sunlight. Store in a well-ventilated place.
Dispose of contents and/or container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulations.

2.3. Other hazards which do not result in classification

No additional information available

SECTION 3 Composition/information on ingredients

3.1. Substances

Name	Chemical name / Synonyms	Product identifier	%
Isobutane (Main constituent)	2-Methylpropane / Propane, 2-methyl- / isobutane (containing \geq 0,1 % butadiene)	CAS-No.: 75-28-5	100

3.2. Mixtures

Not applicable

SECTION 4 First-aid measures

4.1. Description of necessary first-aid measures

First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. If you feel unwell, seek medical advice.
First-aid measures after skin contact	: Wash skin with plenty of water. Obtain medical attention if irritation persists.
First-aid measures after eye contact	: Rinse eyes with water as a precaution. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if irritation persists.
First-aid measures after ingestion	: Do not induce vomiting. If vomiting occurs have person lean forward. Never give anything by mouth to an unconscious person. Call a poison center or a doctor if you feel unwell.
First-aid measures general	: If you feel unwell, seek medical advice (show the label where possible). Medical personnel should be made aware of substance(s) involved and take measures for self protection. Show this safety data sheet to the doctor in attendance. Avoid contact with skin and eyes. Keep out of the reach of children.

4.2. Most important symptoms/effects, acute and delayed

Symptoms/effects after inhalation	: Prolonged inhalation may be harmful. May displace oxygen and cause rapid suffocation.
Symptoms/effects after skin contact	: Prolonged or repeated contact may dry skin and cause irritation.
Symptoms/effects after eye contact	: Direct contact with eyes may cause temporary irritation.
Symptoms/effects after ingestion	: May cause stomach distress, nausea or vomiting.

4.3. Indication of immediate medical attention and special treatment needed, if necessary

Other medical advice or treatment	: Symptoms may be delayed. Treat symptomatically.
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SECTION 5 Fire-fighting measures

5.1. Suitable extinguishing media

Suitable extinguishing media	: Water fog. Dry chemical powder. Carbon dioxide.
Unsuitable extinguishing media	: Do not use a water jet since it may cause the fire to spread.

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5.2. Specific hazards arising from the chemical

Fire hazard	: Extremely flammable gas. During fire, gases hazardous to health may be formed. In case of fire or explosion do not breathe fumes.
Explosion hazard	: No direct explosion hazard.
Hazardous decomposition products in case of fire	: May include and are not limited to: oxides of carbon.

5.3. Special protective actions for fire-fighters

Firefighting instructions	: Eliminate all ignition sources if safe to do so. Leaking gas fire: Do not extinguish, unless leak can be stopped safely. In case of fire: Stop leak if safe to do so. Do not enter fire area without proper protective equipment, including respiratory protection. Move containers from fire area if it can be done without personal risk.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	: In the event of a significant spillage : Notify authorities if product enters sewers or public waters. Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
Environmental precautions	: Avoid release to the environment.

6.2. Methods and materials for containment and cleaning up

For containment	: Stop leaks if it can be done without personal risk. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
Methods for cleaning up	: Notify authorities if product enters sewers or public waters. Pick up spilled material and collect it in a suitable container for disposal. . Soak up with inert absorbent material (for example sand, sawdust, a universal binder, silica gel).
Other information	: This material and its container must be disposed of in a safe way, and as per local legislation.

For further information refer to section 13

SECTION 7 Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Eliminate all ignition sources if safe to do so. Use only outdoors or in a well-ventilated area. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapours/spray. Do not taste or swallow. Wear personal protective equipment. Handle and open container with care.
Hygiene measures	: Do not eat, drink or smoke when using this product. Always wash hands after handling the product.
Additional hazards when processed	: Not expected to present a significant hazard under anticipated conditions of normal use.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	: Protect from sunlight. Store in a well-ventilated place. Keep out of reach of children. Store tightly closed in a dry, cool and well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).
Packaging materials	: Always store product in container of same material as original container.

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According to SOR/2015-17, Hazardous Products Regulations (HPR) (amended 2022) & According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS) (amended 2024)

SECTION 8 Exposure controls/personal protection

8.1. Control parameters

Isobutane (75-28-5)	
Canada (Quebec) - Occupational Exposure Limits	
VECD (OEL STEV)	1000 ppm
Regulatory reference	S-2.1, r. 13 - Regulation respecting occupational health and safety
Canada (British Columbia) - Occupational Exposure Limits	
OEL STEL	1000 ppm
Notations and remarks	EX (the substance is a flammable asphyxiant or excursions above the exposure limit could approach 10% of the lower explosive limit)
Regulatory reference	OHS Guidelines Part 5: Chemical Agents and Biological Agents (WorkSafe BC)
Canada (Manitoba) - Occupational Exposure Limits	
OEL STEL	2370 mg/m ³ (EX - Explosion hazard) 1000 ppm (EX - Explosion hazard)
Notations and remarks	TLV® Basis: CNS impair
Regulatory reference	ACGIH 2025
Canada (New Brunswick) - Occupational Exposure Limits	
OEL STEL	1000 ppm
Canada (Newfoundland and Labrador) - Occupational Exposure Limits	
OEL STEL	2370 mg/m ³ (EX - Explosion hazard) 1000 ppm (EX - Explosion hazard)
Notations and remarks	TLV® Basis: CNS impair
Regulatory reference	ACGIH 2025
Canada (Nova Scotia) - Occupational Exposure Limits	
OEL STEL	2370 mg/m ³ (EX - Explosion hazard) 1000 ppm (EX - Explosion hazard)
Notations and remarks	TLV® Basis: CNS impair
Regulatory reference	ACGIH 2025
Canada (Nunavut) - Occupational Exposure Limits	
OEL TWA	1000 ppm
OEL STEL	1250 ppm
Regulatory reference	Occupational Health and Safety Regulations, Nu Reg 003-2016 (Amendment R-044-2021)
Canada (Northwest Territories) - Occupational Exposure Limits	
OEL TWA	1000 ppm
OEL STEL	1250 ppm
Regulatory reference	Occupation Health and Safety Regulations R-039-2015 (R-090-2024)

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Isobutane (75-28-5)	
Canada (Ontario) - Occupational Exposure Limits	
OEL TWAEV	1000 ppm
Regulatory reference	Occupational Health and Safety Act, R.S.O. 1990, c. O.1 - R.R.O. 1990, Reg. 833: Control of exposure to biological or chemical agents
Canada (Prince Edward Island) - Occupational Exposure Limits	
OEL STEL	2370 mg/m ³ (EX - Explosion hazard)
	1000 ppm (EX - Explosion hazard)
Notations and remarks	TLV® Basis: CNS impair
Regulatory reference	ACGIH 2025
Canada (Saskatchewan) - Occupational Exposure Limits	
OEL TWA	1000 ppm
OEL STEL	1250 ppm
Regulatory reference	The Occupational Health and Safety Regulations, 2020. Chapter S-15.1 Reg 10
USA - ACGIH® - Threshold Limit Values	
ACGIH® TLV® STEL	2370 mg/m ³ (EX - Explosion hazard)
	1000 ppm (EX - Explosion hazard)
Remark (ACGIH®)	TLV® Basis: CNS impair
Regulatory reference	ACGIH 2025

8.2. Appropriate engineering controls

Appropriate engineering controls	: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
Environmental exposure controls	: Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment (PPE)

Hand protection:
Wear protective gloves. Confirm with a reputable supplier first.
Eye protection:
Wear eye protection
Skin and body protection:
Wear suitable protective clothing. As required by employer code.
Respiratory protection:
Where exposure guideline levels may be exceeded, use an approved NIOSH respirator. Respirator should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA's respirator standard (29 CFR 1910.134), CAN/CSA-Z94.4 and ANSI's standard for respiratory protection (Z88.2).

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According to SOR/2015-17, Hazardous Products Regulations (HPR) (amended 2022) & According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS) (amended 2024)

SECTION 9 Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state	: Gas
Appearance	: Colorless gas.
Color	: Colorless
Odor	: Odorless
Odor threshold	: No data available
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Relative evaporation rate (ether=1)	: No data available
Molecular mass	: 58.12 g/mol
Melting point	: -255 °C
Freezing point	: No data available
Boiling point	: -161.48 °C (at 1013 hPa)
Flash point	: -88.6 °C
Auto-ignition temperature	: 460 °C
Decomposition temperature	: No data available
Flammability (solid, gas)	: Extremely flammable gas
Vapor pressure	: 2100 hPa (at 20 °C)
Relative vapor density at 20°C	: No data available
Relative density	: No data available
Density	: 0.589 g/cm ³ (at 25 °C)
Solubility	: Water: 54.6 mg/l (at 25 °C)
Partition coefficient n-octanol/water (Log Pow)	: 1.09 – 2.8 (at 20 °C (at pH 7))
Viscosity, kinematic	: No data available
Explosive properties	: Not explosive.
Oxidizing properties	: Not oxidising.
Explosion limits	: No data available
Particle characteristics	: No data available

9.2. Data relevant with regard to physical hazard classes (supplemental)

No additional information available

SECTION 10 Stability and reactivity

Reactivity	: Extremely flammable gas.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: No dangerous reactions known under normal conditions of use.
Conditions to avoid	: Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.
Incompatible materials	: Strong oxidizing agents.
Hazardous decomposition products	: May include and are not limited to: oxides of carbon.

SECTION 11 Toxicological information

11.1. Likely routes of exposure

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified.

Isobutane (75-28-5)	
LC50 Inhalation - Rat [ppm]	> 800000 ppm (Exposure time: 15 min Source: ECHA_API)

Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified

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Respiratory or skin sensitization	: Not classified
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 applicable
Likely routes of exposure	: Skin and eye contact. Ingestion. Inhalation.
Symptoms/effects after inhalation	: Prolonged inhalation may be harmful. May displace oxygen and cause rapid suffocation.
Symptoms/effects after skin contact	: Prolonged or repeated contact may dry skin and cause irritation.
Symptoms/effects after eye contact	: Direct contact with eyes may cause temporary irritation.
Symptoms/effects after ingestion	: May cause stomach distress, nausea or vomiting.

SECTION 12 Ecological information

12.1. Toxicity

Ecology - general	: See below for route-specific details.
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 (75-28-5)	
Persistence and degradability	Rapidly degradable

12.3. Bioaccumulative potential

Isobutane (75-28-5)	
BCF - Fish [1]	1.57 – 1.97
Partition coefficient n-octanol/water (Log Pow)	1.09 – 2.8 (at 20 °C (at pH 7)

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Ozone	: Not classified
Fluorinated greenhouse gases	: No

SECTION 13 Disposal considerations

Waste treatment methods	: Dispose of the material collected according to regulations.
Sewage disposal recommendations	: Disposal must be done according to official regulations.
Product/Packaging disposal recommendations	: Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling, disposal or collection.


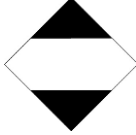


SECTION 14 Transport information

In accordance with TDG / DOT / IMDG / IATA

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According to SOR/2015-17, Hazardous Products Regulations (HPR) (amended 2022) & According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS) (amended 2024)

TDG	DOT	IMDG	IATA
14.1. UN Number			
UN1969	UN1969	1969	1969
14.2. UN Proper Shipping Name			
ISOBUTANE	Isobutane	ISOBUTANE	Isobutane
Transport document description			
UN1969 ISOBUTANE, 2.1	UN1969 Isobutane, 2.1	UN 1969 ISOBUTANE, 2.1	UN 1969 Isobutane, 2.1
14.3. Transport hazard class(es)			
2.1	LTD QTY	2.1	2.1
			
14.4. Packing group, if applicable			
Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards			
Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No
No supplementary information available			

14.6. Special precautions for user

TDG	
UN-No. (TDG)	: UN1969
ERAP Index	: 3000
Excepted quantities (TDG)	: E0
Emergency Response Guide (ERG) Number	: 115
DOT	
UN-No. (DOT)	: UN1969
DOT Special Provisions (49 CFR 172.102)	: 19 - For domestic transportation only, the identification number UN1075 may be used in place of the identification number specified in column (4) of the 172.101 table. The identification number used must be consistent on package markings, shipping papers and emergency response information. T50 - When portable tank instruction T50 is referenced in Column (7) of the 172.101 Table, the applicable liquefied compressed gases are authorized to be transported in portable tanks in accordance with the requirements of 173.313 of this subchapter.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 306
DOT Packaging Non Bulk (49 CFR 173.xxx)	: 304
DOT Packaging Bulk (49 CFR 173.xxx)	: 314, 315
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: Forbidden
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 150 kg
DOT Vessel Stowage Location	: E - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length, but is prohibited from carriage on passenger vessels in which the limiting number of passengers is exceeded.
DOT Vessel Stowage Other	: 40 - Stow "clear of living quarters"

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According to SOR/2015-17, Hazardous Products Regulations (HPR) (amended 2022) & According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS) (amended 2024)

IMDG	
Special provision (IMDG)	: 392
Limited quantities (IMDG)	: 0
Excepted quantities (IMDG)	: E0
Packing instructions (IMDG)	: P200
Tank instructions (IMDG)	: T50
EmS-No. (Fire)	: F-D - FIRE SCHEDULE Delta - FLAMMABLE GASES
EmS-No. (Spillage)	: S-U - SPILLAGE SCHEDULE Uniform - GASES (FLAMMABLE, TOXIC OR CORROSIVE)
Stowage category (IMDG)	: E
Stowage and handling (IMDG)	: SW2
Properties and observations (IMDG)	: Flammable hydrocarbon. Heavier than air.

IATA	
PCA Excepted quantities (IATA)	: E0
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
Special provision (IATA)	: A1
ERG code (IATA)	: 10L

14.7. Transport in bulk according to Annex II of MARPOL 73/789(^9) and the IBC Code(^10)

Not applicable

SECTION 15 Regulatory information

All components of this product are present on DSL

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

Isobutane (75-28-5)

State or local regulations	U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List U.S. - Massachusetts - Right To Know List
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California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16 Other Information

Issue date : 03/02/2026

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According to SOR/2015-17, Hazardous Products Regulations (HPR) (amended 2022) & According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS) (amended 2024)

Other information : For an updated SDS, please contact the supplier or manufacturer listed on the first page of the document.

Prepared by: Nu-Calgon Technical Service Phone: (314) 469-7000.

The information in the safety data sheet was written based on the best knowledge and experience currently available. Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.