

# SAFETY DATA SHEET

## Isobutane



### Section 1. Identification

**Product identifier** : Isobutane  
**Product code** : R-600a  
**Other means of identification** : Refrigerant gas R600a, 2-Methylpropane, Trimethylmethane  
**Product type** : Gas.

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

**Identified uses** : Refrigerant. For professional use only.

**Manufacturer** : ChemPenn, LLC  
 351 Camer Dr, Suite B  
 Bensalem, PA 19020  
 Tel.: 215-638-1111 (Monday to Friday, 9:00 am to 5:00 pm)

**Supplier's details** : Alltemp Products Co. Ltd  
 827 Brock Rd S  
 Pickering, Ontario Canada, L1W3J2  
 Tel: 905-831-3311  
 Fax: 905-831-1864  
 Email: sales@alltemp.ca  
 Web site: www.alltemp.ca

**Emergency telephone number (with hours of operation)** : 1-905-831-3311  
 8:30 am - 5:00 pm

### Section 2. Hazard identification

**Classification of the substance or mixture** : FLAMMABLE GASES - Category 1  
 GASES UNDER PRESSURE - Compressed gas  
 SIMPLE ASPHYXIANTS - Category 1

#### GHS label elements

##### **Hazard pictograms**



**Signal word** : Danger

**Hazard statements** : H220 - Extremely flammable gas.  
 H280 - Contains gas under pressure; may explode if heated.  
 No Code(s) - May displace oxygen and cause rapid suffocation.

#### Precautionary statements

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

**Response** : P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.  
 P381 - In case of leakage, eliminate all ignition sources.



## Section 2. Hazard identification

- Storage** : P410 - Protect from sunlight.  
P403 - Store in a well-ventilated place.
- Disposal** : Not applicable.
- Supplemental label elements** : Keep container tightly closed. Use only with adequate ventilation. Do not enter storage areas and confined spaces unless adequately ventilated.

## Section 3. Composition/information on ingredients

- Substance/mixture** : Substance
- Other means of identification** : Refrigerant gas R600a, 2-Methylpropane, Trimethylmethane

### CAS number/other identifiers

- CAS number** : 75-28-5

Ingredient name	% (v/v)	CAS number
Isobutane	100	75-28-5

The exact percentage (concentration) in the composition has been withheld as a trade secret in accordance with the amended HPR as of April 2018.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First-aid measures

### Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Flush contaminated skin with plenty of water. To avoid the risk of static discharges and gas ignition, soak contaminated clothing thoroughly with water before removing it. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : As this product is a gas, refer to the inhalation section.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : Contact with rapidly expanding gas may cause burns or frostbite.
- Inhalation** : At very high concentrations, can displace the normal air and cause suffocation from lack of oxygen.
- Skin contact** : Contact with rapidly expanding gas may cause burns or frostbite.
- Ingestion** : As this product is a gas, refer to the inhalation section.

## Section 4. First-aid measures

### Over-exposure signs/symptoms

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

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

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

- Suitable extinguishing media** : Do not extinguish gas fire unless the gas leak can be stopped. Extinguish fire using an agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : Do not use high volume water jet as an extinguisher, as this may spread the fire.

- Specific hazards arising from the chemical** : Contains gas under pressure. Extremely flammable gas. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
Carbon oxides (CO, CO<sub>2</sub>).  
Hydrocarbons.  
Toxic vapors.

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Contact supplier immediately for specialist advice. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. If involved in fire, shut off flow immediately if it can be done without risk. If this is impossible, withdraw from area and allow fire to burn. Fight fire from protected location or maximum possible distance. Eliminate all ignition sources if safe to do so.

- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.





## Section 8. Exposure controls/personal protection

**Respiratory protection** : The gas can cause asphyxiation without warning by replacing the oxygen in the air. Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. If operating conditions cause high gas concentrations to be produced or any recommended or statutory exposure limit is exceeded, use an air-fed respirator or self-contained breathing apparatus. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

## Section 9. Physical and chemical properties

### Appearance

**Physical state** : Gas.

**Color** : Colorless.

**Odor** : Odorless.

**Odor threshold** : Not available.

**pH** : Not available.

**Melting point** : -159°C (-254.2°F)

**Boiling point** : -11.7°C (10.9°F)

**Flash point** : Closed cup: -83°C (-117.4°F)

**Evaporation rate** : Not available.

**Flammability (solid, gas)** : Extremely flammable gas. Contains gas under pressure; may explode if heated.

**Lower and upper explosive (flammable) limits** : Not available.

**Vapor pressure** : Not available.

**Vapor density** : Not available.

**Relative density** : Not available.

**Solubility** : Water: 54 mg/l

**Partition coefficient: n-octanol/water** : Not available.

**Auto-ignition temperature** : Not available.

**Decomposition temperature** : Not available.

**Viscosity** : Not available.

**Flow time (ISO 2431)** : Not available.

**Molecular weight** : 44.11 g/mole

## Section 10. Stability and reactivity

**Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

**Chemical stability** : The product is stable.

**Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

**Conditions to avoid** : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow gas to accumulate in low or confined areas.

## Section 10. Stability and reactivity

**Incompatible materials** : Reactive or incompatible with the following materials: Strong acids, strong bases and strong oxidizers.

**Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Isobutane	LC50 Inhalation Vapor	Rat	658000 mg/m <sup>3</sup>	4 hours

#### Irritation/Corrosion

There is no data available.

#### Sensitization

There is no data available.

#### Mutagenicity

There is no data available.

#### Carcinogenicity

There is no data available.

#### Reproductive toxicity

There is no data available.

#### Teratogenicity

There is no data available.

#### Specific target organ toxicity (single exposure)

There is no data available.

#### Specific target organ toxicity (repeated exposure)

There is no data available.

#### Aspiration hazard

There is no data available.

**Information on the likely routes of exposure** : Dermal contact. Eye contact. Inhalation.

### Potential acute health effects

- Eye contact** : Contact with rapidly expanding gas may cause burns or frostbite.
- Inhalation** : At very high concentrations, can displace the normal air and cause suffocation from lack of oxygen.
- Skin contact** : Contact with rapidly expanding gas may cause burns or frostbite.
- Ingestion** : As this product is a gas, refer to the inhalation section.

### Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.

## Section 11. Toxicological information

**Ingestion** : No known significant effects or critical hazards.

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

**Potential immediate effects** : No known significant effects or critical hazards.

**Potential delayed effects** : No known significant effects or critical hazards.

#### Long term exposure

**Potential immediate effects** : No known significant effects or critical hazards.

**Potential delayed effects** : No known significant effects or critical hazards.

#### Potential chronic health effects

**General** : No known significant effects or critical hazards.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : No known significant effects or critical hazards.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

There is no data available.

## Section 12. Ecological information

### Toxicity

There is no data available.

### Persistence and degradability

There is no data available.

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
Isobutane	2.8	-	low

### Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.




**Other adverse effects** : No known significant effects or critical hazards.



## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Empty pressure vessels should be returned to the supplier. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

## Section 14. Transport information

	TDG Classification	IMDG	IATA
<b>UN number</b>	UN1969	UN1969	UN1969
<b>UN proper shipping name</b>	ISOBUTANE	ISOBUTANE	ISOBUTANE
<b>Transport hazard class(es)</b>	2.1 	2.1 	2.1 
<b>Packing group</b>	-	-	-
<b>Environmental hazards</b>	No.	No.	No.

### Additional information

**TDG Classification** : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.13-2.17 (Class 2).

**IMDG** : **Emergency schedules** F-D, S-U

**Emergency Response Guidebook (ERG)** : 115

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

## Section 15. Regulatory information

### Canadian lists

**Canada inventory (DSL NDSL)** : All components are listed or exempted.

**Canadian NPRI** : The following components are listed: Isobutane

**CEPA Toxic substances** : None of the components are listed.

## Section 16. Other information

### Procedure used to derive the classification

Classification	Justification
FLAMMABLE GASES - Category 1 GASES UNDER PRESSURE - Compressed gas SIMPLE ASPHYXIANTS - Category 1	On basis of test data On basis of test data Expert judgment

### History

<b>Date of issue</b>	: 03/15/2020
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<b>Version</b>	: 2
<b>Prepared by</b>	: KMK Regulatory Services Inc.
<b>Key to abbreviations</b>	: ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) UN = United Nations HPR = Hazardous Products Regulations

### Notice to reader

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