

# Butane, Mixed

## Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations And According To The Hazardous Products Regulation (February 11, 2015).

Date of Issue: 08/16/2024

Version: 1.0

### SECTION 1: IDENTIFICATION

#### 1.1. Product Identifier

**Product Form:** Mixture

**Product Name:** Butane, Mixed

**Synonyms:** Butane, n-Butane, Butyl Hydride

#### 1.2. Intended Use of the Product

Fuel

#### 1.3. Name, Address, and Telephone of the Responsible Party

##### Company

Williams Inc.

One Williams Center

Tulsa, OK 74172

855-945-5762

[www.williams.com](http://www.williams.com)

[ehs@williams.com](mailto:ehs@williams.com)

#### 1.4. Emergency Telephone Number

CHEMTREC:

1-800-424-9300 (US/Canada)

+01 703-527-3887 (International)

[Security.OperationsCenter@williams.com](mailto:Security.OperationsCenter@williams.com)

### SECTION 2: HAZARDS IDENTIFICATION

#### 2.1. Classification of the Substance or Mixture

##### GHS-US/CA Classification

Flammable gases Category 1

H220

Gases under pressure Liquefied gas

H280

Simple Asphyxiant

#### 2.2. Label Elements

##### GHS-US/CA Labeling

##### Hazard Pictograms (GHS-US/CA)



##### Signal Word (GHS-US/CA)

: Danger

##### Hazard Statements (GHS-US/CA)

: H220 - Extremely flammable gas.

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

May displace oxygen and cause rapid suffocation.

##### Precautionary Statements (GHS-US/CA)

: 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.

P403 - Store in a well-ventilated place.

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

#### 2.3. Other Hazards

Exposure may aggravate pre-existing eye, skin, or respiratory conditions. Contact with gas escaping the container can cause frostbite.

#### 2.4. Unknown Acute Toxicity (GHS-US/CA)

No additional information available

# Butane, Mixed

## Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations And According To The Hazardous Products Regulation (February 11, 2015).

### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1. Substance

Not applicable

#### 3.2. Mixture

Name	Synonyms	Product Identifier	% *	GHS Ingredient Classification
n-Butane	Butane / BUTANE	(CAS-No.) 106-97-8	45 – 70	Flam. Gas 1, H220 Press. Gas (Liq.), H280 Simple Asphy
Isobutane	2-Methylpropane / Propane, 2-methyl- / ISOBUTANE / R600a / isobutane	(CAS-No.) 75-28-5	15 – 40	Flam. Gas 1, H220 Press. Gas (Liq.), H280 Simple Asphy
Propane	Normal propane / PROPANE / n-Propane / R290	(CAS-No.) 74-98-6	1 – 5	Flam. Gas 1, H220 Press. Gas (Liq.), H280 Simple Asphy
Isopentane	Butane, 2-methyl- / 2- Methylbutane / ISOPENTANE / Methylbutane / isopentane	(CAS-No.) 78-78-4	0.1 – 1	Flam. Liq. 1, H224 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 2, H411
n-Pentane	Pentane / Normal pentane / PENTANE / Pentane, n-	(CAS-No.) 109-66-0	0.1 – 1	Flam. Liq. 1, H224 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 2, H411

Full text of H-statements: see section 16

\* The actual concentration of ingredient(s) is withheld as a trade secret in accordance with the Hazardous Products Regulations (HPR) SOR/2015-17 and 29 CFR 1910.1200. Percentages are listed in weight by weight percentage (w/w%) for liquid and solid ingredients. Gas ingredients are listed in volume by volume percentage (v/v%).

### SECTION 4: FIRST AID MEASURES

#### 4.1. Description of First-aid Measures

**General:** Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

**Inhalation:** First, take proper precautions to ensure your own safety before attempting rescue (e.g. wear appropriate respiratory protective equipment, use the buddy system), then remove the exposed person to fresh air. Keep at rest in a position comfortable for breathing. Give oxygen or artificial respiration if necessary. Obtain medical attention if breathing difficulty persists.

**Skin Contact:** Remove contaminated clothing. Drench affected area with water for at least 5 minutes. Obtain medical attention if irritation develops or persists. For brief contact with a small amount: Rewarm with body heat. Get immediate medical advice/attention. For extensive contact or a large amount: Immediately call a poison center/doctor and follow their advice. Specific treatment is urgent, incorrect first-aid practices will aggravate the injury. Protect affected area with a loose cover until proper medical treatment is received.

**Eye Contact:** Rinse cautiously with water for at least 5 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if irritation develops or persists.

**Ingestion:** Ingestion is not an anticipated route of exposure. If accidental ingestion occurs, flush mouth out with water and get medical attention. Though risk of ingestion is extremely unlikely, in case of frostbite or freeze burns due to oral exposure seek immediate medical attention.

#### 4.2. Most Important Symptoms and Effects Both Acute and Delayed

**General:** May cause frostbite on contact with the liquid. Asphyxia by lack of oxygen: risk of death.

**Inhalation:** In elevated concentrations may cause asphyxiation, central nervous system effects, and increased breathing rate. Symptoms of asphyxiation include headache, dizziness, rapid breathing, increased pulse, mood changes, tremors, cyanosis, muscular weakness, narcosis, numbness of the extremities, unconsciousness and death.

**Skin Contact:** Contact with gas/liquid escaping the container can cause frostbite and freeze burns.

**Eye Contact:** Contact with gas/liquid escaping the container can cause frostbite, freeze burns, and permanent eye damage.

# Butane, Mixed

## Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations And According To The Hazardous Products Regulation (February 11, 2015).

**Ingestion:** Not considered a potential route of exposure, but contact with gas/liquid escaping the container can cause freeze burns and frostbite.

**Chronic Symptoms:** None known.

### 4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

## SECTION 5: FIRE-FIGHTING MEASURES

### 5.1. Extinguishing Media

**Suitable Extinguishing Media:** Do not extinguish burning gas if flow cannot be shut off immediately. Extinguish secondary FIRES with appropriate materials.

**Unsuitable Extinguishing Media:** Do not use a heavy water stream. Use of heavy stream of water may spread fire.

### 5.2. Special Hazards Arising From the Substance or Mixture

**Fire Hazard:** Extremely flammable gas.

**Explosion Hazard:** May form flammable/explosive vapor-air mixture. Container may explode in heat of fire. Vapors are heavier than air and may travel considerable distance to an ignition source and flash back to source of vapors.

**Reactivity:** Hazardous reactions will not occur under normal conditions.

### 5.3. Advice for Firefighters

**Precautionary Measures Fire:** Exercise caution when fighting any chemical fire.

**Firefighting Instructions:** Use water spray or fog for cooling exposed containers. Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Eliminate all ignition sources if safe to do so. Fight fire remotely due to the risk of explosion.

**Protection During Firefighting:** Do not enter fire area without proper protective equipment, including respiratory protection.

**Hazardous Combustion Products:** Carbon oxides (CO, CO<sub>2</sub>).

**Other Information:** Use water spray to disperse vapors. Do not allow run-off from fire fighting to enter drains or water courses.

### 5.4. Reference to Other Sections

Refer to Section 9 for flammability properties.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### 6.1. Personal Precautions, Protective Equipment and Emergency Procedures

**General Measures:** Eliminate every possible source of ignition. Do not get in eyes, on skin, or on clothing. Do not breathe Gas.

#### 6.1.1. For Non-Emergency Personnel

**Protective Equipment:** Use appropriate personal protective equipment (PPE).

**Emergency Procedures:** Evacuate unnecessary personnel.

#### 6.1.2. For Emergency Personnel

**Protective Equipment:** Equip cleanup crew with proper protection.

**Emergency Procedures:** Eliminate ignition sources. Evacuate unnecessary personnel, isolate, and ventilate area. Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit.

### 6.2. Environmental Precautions

Prevent entry to sewers and public waters. Avoid release to the environment.

### 6.3. Methods and Materials for Containment and Cleaning Up

**For Containment:** Remove ignition sources. Stop leak, if possible without risk. As an immediate precautionary measure, isolate spill or leak area in all directions.

**Methods for Cleaning Up:** Clean up spills immediately and dispose of waste safely. Stop the source of the release, if safe to do so. Consider the use of water spray to disperse vapors. Isolate the area until gas has dispersed. Ventilate and gas test area before entering. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

### 6.4. Reference to Other Sections

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

## SECTION 7: HANDLING AND STORAGE

### 7.1. Precautions for Safe Handling

**Additional Hazards When Processed:** Handle empty containers with care because residual vapors are flammable. Ruptured cylinders may rocket. Do not pressurize, cut, or weld containers. Asphyxiating gas at high concentrations.

**Precautions for Safe Handling:** Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Avoid prolonged contact with eyes, skin and clothing. Do not breathe gas.

**Hygiene Measures:** Handle in accordance with good industrial hygiene and safety procedures.

# Butane, Mixed

## Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations And According To The Hazardous Products Regulation (February 11, 2015).

### 7.2. Conditions for Safe Storage, Including Any Incompatibilities

**Technical Measures:** Comply with applicable regulations. Proper grounding procedures to avoid static electricity should be followed.

**Storage Conditions:** Keep container closed when not in use. Store in a dry, cool place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials. Keep in fireproof place. Cylinders should be stored upright with valve protection cap in place and firmly secured to prevent falling.

**Incompatible Materials:** Strong acids, strong bases, strong oxidizers. Oxygen. Chlorine.

### 7.3. Specific End Use(s)

Fuel

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), OSHA (PEL), or Canadian provincial governments.

n-Butane (106-97-8)		
USA ACGIH	ACGIH OEL STEL [ppm]	1000 ppm (explosion hazard (Butane, isomers))
USA NIOSH	NIOSH REL (TWA)	1900 mg/m <sup>3</sup>
USA NIOSH	NIOSH REL TWA [ppm]	800 ppm
USA IDLH	IDLH [ppm]	1600 ppm (>10% LEL)
Alberta	OEL TWA [ppm]	1000 ppm
British Columbia	OEL STEL [ppm]	1000 ppm (Butane, all isomers)
Manitoba	OEL STEL [ppm]	1000 ppm (explosion hazard (Butane, isomers))
New Brunswick	OEL TWA	1900 mg/m <sup>3</sup>
New Brunswick	OEL TWA [ppm]	800 ppm
Newfoundland & Labrador	OEL STEL [ppm]	1000 ppm (explosion hazard (Butane, isomers))
Nova Scotia	OEL STEL [ppm]	1000 ppm (explosion hazard (Butane, isomers))
Nunavut	OEL STEL [ppm]	1250 ppm (Butane, all isomers)
Nunavut	OEL TWA [ppm]	1000 ppm (Butane, all isomers)
Northwest Territories	OEL STEL [ppm]	1250 ppm (Butane, all isomers)
Northwest Territories	OEL TWA [ppm]	1000 ppm (Butane, all isomers)
Ontario	OEL STEL [ppm]	1000 ppm (explosion hazard (Butane, all isomers))
Prince Edward Island	OEL STEL [ppm]	1000 ppm (explosion hazard (Butane, isomers))
Québec	VEMP (OEL TWA)	1900 mg/m <sup>3</sup>
Québec	VEMP (OEL TWA) [ppm]	800 ppm
Saskatchewan	OEL STEL [ppm]	1250 ppm (Butane, all isomers)
Saskatchewan	OEL TWA [ppm]	1000 ppm (Butane, all isomers)
Yukon	OEL STEL	1600 mg/m <sup>3</sup>
Yukon	OEL STEL [ppm]	750 ppm
Yukon	OEL TWA	1400 mg/m <sup>3</sup>
Yukon	OEL TWA [ppm]	600 ppm
Isobutane (75-28-5)		
USA ACGIH	ACGIH OEL STEL [ppm]	1000 ppm (explosion hazard (Butane, isomers))
USA NIOSH	NIOSH REL (TWA)	1900 mg/m <sup>3</sup>
USA NIOSH	NIOSH REL TWA [ppm]	800 ppm
British Columbia	OEL STEL [ppm]	1000 ppm (Butane, all isomers)
Manitoba	OEL STEL [ppm]	1000 ppm (explosion hazard (Butane, isomers))
Newfoundland & Labrador	OEL STEL [ppm]	1000 ppm (explosion hazard (Butane, isomers))
Nova Scotia	OEL STEL [ppm]	1000 ppm (explosion hazard (Butane, isomers))
Nunavut	OEL STEL [ppm]	1250 ppm (Butane, all isomers)
Nunavut	OEL TWA [ppm]	1000 ppm (Butane, all isomers)
Northwest Territories	OEL STEL [ppm]	1250 ppm (Butane, all isomers)
Northwest Territories	OEL TWA [ppm]	1000 ppm (Butane, all isomers)

# Butane, Mixed

## Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations And According To The Hazardous Products Regulation (February 11, 2015).

<b>Ontario</b>	OEL STEL [ppm]	1000 ppm (explosion hazard (Butane, all isomers))
<b>Prince Edward Island</b>	OEL STEL [ppm]	1000 ppm (explosion hazard (Butane, isomers))
<b>Saskatchewan</b>	OEL STEL [ppm]	1250 ppm (Butane, all isomers)
<b>Saskatchewan</b>	OEL TWA [ppm]	1000 ppm (Butane, all isomers)
<b>Propane (74-98-6)</b>		
<b>USA ACGIH</b>	ACGIH chemical category	Simple asphyxiant See Appendix F: Minimal Oxygen Content
<b>USA OSHA</b>	OSHA PEL (TWA) [1]	1800 mg/m <sup>3</sup>
<b>USA OSHA</b>	OSHA PEL (TWA) [2]	1000 ppm
<b>USA NIOSH</b>	NIOSH REL (TWA)	1800 mg/m <sup>3</sup>
<b>USA NIOSH</b>	NIOSH REL TWA [ppm]	1000 ppm
<b>USA IDLH</b>	IDLH [ppm]	2100 ppm (10% LEL)
<b>Alberta</b>	OEL TWA [ppm]	1000 ppm
<b>Nunavut</b>	OEL STEL [ppm]	1250 ppm
<b>Nunavut</b>	OEL TWA [ppm]	1000 ppm
<b>Northwest Territories</b>	OEL STEL [ppm]	1250 ppm
<b>Northwest Territories</b>	OEL TWA [ppm]	1000 ppm
<b>Québec</b>	VEMP (OEL TWA)	1800 mg/m <sup>3</sup>
<b>Québec</b>	VEMP (OEL TWA) [ppm]	1000 ppm
<b>Saskatchewan</b>	OEL STEL [ppm]	1250 ppm
<b>Saskatchewan</b>	OEL TWA [ppm]	1000 ppm
<b>Isopentane (78-78-4)</b>		
<b>USA ACGIH</b>	ACGIH OEL TWA [ppm]	1000 ppm (Pentane, all isomers)
<b>Alberta</b>	OEL TWA	1770 mg/m <sup>3</sup> (Pentane, all isomers)
<b>Alberta</b>	OEL TWA [ppm]	600 ppm (Pentane, all isomers)
<b>British Columbia</b>	OEL TWA [ppm]	1000 ppm (Pentane, all isomers)
<b>Manitoba</b>	OEL TWA [ppm]	1000 ppm (Pentane, all isomers)
<b>Newfoundland &amp; Labrador</b>	OEL TWA [ppm]	1000 ppm (Pentane, all isomers)
<b>Nova Scotia</b>	OEL TWA [ppm]	1000 ppm (Pentane, all isomers)
<b>Nunavut</b>	OEL STEL [ppm]	750 ppm (Pentane, all isomers)
<b>Nunavut</b>	OEL TWA [ppm]	600 ppm (Pentane, all isomers)
<b>Northwest Territories</b>	OEL STEL [ppm]	750 ppm (Pentane, all isomers)
<b>Northwest Territories</b>	OEL TWA [ppm]	600 ppm (Pentane, all isomers)
<b>Ontario</b>	OEL TWA [ppm]	1000 ppm (Pentane, all isomers)
<b>Prince Edward Island</b>	OEL TWA [ppm]	1000 ppm (Pentane, all isomers)
<b>Québec</b>	VEMP (OEL TWA) [ppm]	1000 ppm (Pentane (all isomers))
<b>Saskatchewan</b>	OEL STEL [ppm]	750 ppm (Pentane, all isomers)
<b>Saskatchewan</b>	OEL TWA [ppm]	600 ppm (Pentane, all isomers)
<b>n-Pentane (109-66-0)</b>		
<b>USA ACGIH</b>	ACGIH OEL TWA [ppm]	1000 ppm (Pentane, all isomers)
<b>USA OSHA</b>	OSHA PEL (TWA) [1]	2950 mg/m <sup>3</sup>
<b>USA OSHA</b>	OSHA PEL (TWA) [2]	1000 ppm
<b>USA NIOSH</b>	NIOSH REL (TWA)	350 mg/m <sup>3</sup>
<b>USA NIOSH</b>	NIOSH REL TWA [ppm]	120 ppm
<b>USA NIOSH</b>	NIOSH REL (Ceiling)	1800 mg/m <sup>3</sup>
<b>USA NIOSH</b>	NIOSH REL C [ppm]	610 ppm
<b>USA IDLH</b>	IDLH [ppm]	1500 ppm (10% LEL)
<b>Alberta</b>	OEL TWA	1770 mg/m <sup>3</sup>
<b>Alberta</b>	OEL TWA [ppm]	600 ppm
<b>British Columbia</b>	OEL TWA [ppm]	1000 ppm (Pentane, all isomers)
<b>Manitoba</b>	OEL TWA [ppm]	1000 ppm (Pentane, all isomers)

# Butane, Mixed

## Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations And According To The Hazardous Products Regulation (February 11, 2015).

New Brunswick	OEL STEL	2210 mg/m <sup>3</sup>
New Brunswick	OEL STEL [ppm]	750 ppm
New Brunswick	OEL TWA	1770 mg/m <sup>3</sup>
New Brunswick	OEL TWA [ppm]	600 ppm
Newfoundland & Labrador	OEL TWA [ppm]	1000 ppm (Pentane, all isomers)
Nova Scotia	OEL TWA [ppm]	1000 ppm (Pentane, all isomers)
Nunavut	OEL STEL [ppm]	750 ppm (Pentane, all isomers)
Nunavut	OEL TWA [ppm]	600 ppm (Pentane, all isomers)
Northwest Territories	OEL STEL [ppm]	750 ppm (Pentane, all isomers)
Northwest Territories	OEL TWA [ppm]	600 ppm (Pentane, all isomers)
Ontario	OEL TWA [ppm]	1000 ppm
Prince Edward Island	OEL TWA [ppm]	1000 ppm (Pentane, all isomers)
Québec	VEMP (OEL TWA) [ppm]	1000 ppm (Pentane (all isomers))
Saskatchewan	OEL STEL [ppm]	750 ppm
Saskatchewan	OEL TWA [ppm]	600 ppm
Yukon	OEL STEL	2250 mg/m <sup>3</sup>
Yukon	OEL STEL [ppm]	750 ppm
Yukon	OEL TWA	1800 mg/m <sup>3</sup>
Yukon	OEL TWA [ppm]	600 ppm
<b>Aliphatic hydrocarbon gases: Alkanes (C1-4)</b>		
Nunavut	OEL STEL [ppm]	1250 ppm
Nunavut	OEL TWA [ppm]	1000 ppm
Northwest Territories	OEL STEL [ppm]	1250 ppm
Northwest Territories	OEL TWA [ppm]	1000 ppm
Saskatchewan	OEL STEL [ppm]	1250 ppm
Saskatchewan	OEL TWA [ppm]	1000 ppm
<b>Aliphatic hydrocarbon gases, alkane (C2-4)</b>		
Alberta	OEL TWA [ppm]	1000 ppm

## 8.2. Exposure Controls

**Appropriate Engineering Controls:** Suitable eye/body wash equipment should be available in the vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed. Use explosion-proof equipment. Proper grounding procedures to avoid static electricity should be followed. Gas detectors should be used when flammable gases or vapors may be released. Oxygen detectors should be used when asphyxiating gases may be released.

**Personal Protective Equipment:** Gloves. Protective clothing. Protective goggles. Insufficient ventilation: wear respiratory protection. Respiratory protection of the dependent type.



**Materials for Protective Clothing:** Chemically resistant materials and fabrics. Wear fire/flammable resistant/retardant clothing.

**Hand Protection:** Wear protective gloves. If material is cold, wear thermally resistant protective gloves.

**Eye and Face Protection:** Chemical safety goggles. Faceshield as determined by task.

**Skin and Body Protection:** Wear suitable protective clothing.

**Respiratory Protection:** Use a NIOSH-approved self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.

**Thermal Hazard Protection:** Wear thermally resistant protective clothing.

**Other Information:** When using, do not eat, drink or smoke.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on Basic Physical and Chemical Properties

Physical State	: Gas
Appearance	: Colorless
Odor	: Gasoline-like or natural gas odor

# Butane, Mixed

## Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations And According To The Hazardous Products Regulation (February 11, 2015).

<b>Odor Threshold</b>	: No data available
<b>pH</b>	: No data available
<b>Evaporation Rate</b>	: No data available
<b>Melting Point</b>	: -73.9 °C (-101.02 °F)
<b>Freezing Point</b>	: -73.9 °C (-101.02 °F)
<b>Boiling Point</b>	: -11.7 °C (10.94 °F)
<b>Flash Point</b>	: -60 °C (-76 °F)
<b>Auto-ignition Temperature</b>	: 369.8 °C (697.64 °F)
<b>Decomposition Temperature</b>	: No data available
<b>Flammability (solid, gas)</b>	: Extremely flammable gas
<b>Lower Flammable Limit</b>	: 1.9 %
<b>Upper Flammable Limit</b>	: 8.5 %
<b>Vapor Pressure</b>	: 3015.5 mm Hg (58.31 psi)
<b>Relative Vapor Density at 20°C</b>	: No data available
<b>Relative Density</b>	: 0.58 (water =1)
<b>Specific Gravity</b>	: No data available
<b>Solubility</b>	: Water: Not miscible or difficult to mix
<b>Partition Coefficient: N-Octanol/Water</b>	: No data available
<b>Viscosity</b>	: No data available
<b>Explosive Properties</b>	: Contains gas under pressure; may explode if heated

## SECTION 10: STABILITY AND REACTIVITY

### 10.1. Reactivity:

Hazardous reactions will not occur under normal conditions.

### 10.2. Chemical Stability:

Contains gas under pressure; may explode if heated.

### 10.3. Possibility of Hazardous Reactions:

Hazardous polymerization will not occur.

### 10.4. Conditions to Avoid:

Direct sunlight, extremely high or low temperatures, open flames, sources of ignition and incompatible materials.

### 10.5. Incompatible Materials:

Strong acids, strong bases, strong oxidizers. Oxygen. Chlorine.

### 10.6. Hazardous Decomposition Products:

Thermal decomposition may produce: Carbon oxides (CO, CO<sub>2</sub>).

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on Toxicological Effects - Product

**Acute Toxicity (Oral):** Not classified

**Acute Toxicity (Dermal):** Not classified

**Acute Toxicity (Inhalation):** Not classified

#### LD50 and LC50 Data:

No additional information available

**Skin Corrosion/Irritation:** Not classified

**Eye Damage/Irritation:** Not classified

**Respiratory or Skin Sensitization:** Not classified

**Germ Cell Mutagenicity:** Not classified

**Carcinogenicity:** Not classified

**Specific Target Organ Toxicity (Repeated Exposure):** Not classified

**Reproductive Toxicity:** Not classified

**Specific Target Organ Toxicity (Single Exposure):** Not classified

**Aspiration Hazard:** Not classified

**Symptoms/Injuries After Inhalation:** In elevated concentrations may cause asphyxiation, central nervous system effects, and increased breathing rate. Symptoms of asphyxiation include headache, dizziness, rapid breathing, increased pulse, mood changes, tremors, cyanosis, muscular weakness, narcosis, numbness of the extremities, unconsciousness and death.

**Symptoms/Injuries After Skin Contact:** Contact with gas/liquid escaping the container can cause frostbite and freeze burns.

# Butane, Mixed

## Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations And According To The Hazardous Products Regulation (February 11, 2015).

**Symptoms/Injuries After Eye Contact:** Contact with gas/liquid escaping the container can cause frostbite, freeze burns, and permanent eye damage.

**Symptoms/Injuries After Ingestion:** Not considered a potential route of exposure, but contact with gas/liquid escaping the container can cause freeze burns and frostbite.

**Chronic Symptoms:** None known.

### 11.2. Information on Toxicological Effects - Ingredient(s)

#### LD50 and LC50 Data:

<b>n-Butane (106-97-8)</b>	
LC50 Inhalation Rat	30957 mg/m <sup>3</sup> (Exposure time: 4 h)
LC50 Inhalation Rat	276798.8 ppm
<b>Propane (74-98-6)</b>	
LC50 Inhalation Rat	> 800000 ppm (Exposure time: 15 min)
<b>n-Pentane (109-66-0)</b>	
LD50 Oral Rat	> 2000 mg/kg
LD50 Dermal Rabbit	3000 mg/kg
LC50 Inhalation Rat	364 g/m <sup>3</sup> (Exposure time: 4 h)
LC50 Inhalation Rat	> 20 mg/l/4h

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

**Ecology - General:** Harmful to aquatic life with long lasting effects.

<b>Isopentane (78-78-4)</b>	
EC50 - Crustacea [1]	2.3 mg/l (Exposure time: 48 h - Species: Daphnia magna)
<b>n-Pentane (109-66-0)</b>	
LC50 Fish 1	9.87 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)
EC50 - Crustacea [1]	9.74 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 Fish 2	11.59 mg/l (Exposure time: 96 h - Species: Pimephales promelas)
NOEC Chronic Algae	2 mg/l

### 12.2. Persistence and Degradability

<b>Butane, Mixed</b>	
Persistence and Degradability	May cause long-term adverse effects in the environment.

### 12.3. Bioaccumulative Potential

<b>Butane, Mixed</b>	
Bioaccumulative Potential	Not established.
<b>n-Butane (106-97-8)</b>	
Partition coefficient n-octanol/water (Log Pow)	2.31 at 20 °C / 68 °F (at pH 7)
<b>Isobutane (75-28-5)</b>	
BCF Fish 1	1.57 – 1.97
Partition coefficient n-octanol/water (Log Pow)	1.09 – 2.8 at 20 °C / 68 °F (at pH 7)
<b>Propane (74-98-6)</b>	
Partition coefficient n-octanol/water (Log Pow)	1.09 at 20 °C / 68 °F (at pH 7)
<b>Isopentane (78-78-4)</b>	
Partition coefficient n-octanol/water (Log Pow)	4 at 25 °C / 77 °F (at pH 6.6)
<b>n-Pentane (109-66-0)</b>	
Partition coefficient n-octanol/water (Log Pow)	3.45 at 25 °C / 77 °F (at pH 7)



# Butane, Mixed

## Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations And According To The Hazardous Products Regulation (February 11, 2015).

### 12.4. Mobility in Soil

No additional information available

### 12.5. Other Adverse Effects

**Other Information:** Avoid release to the environment.

## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

**Waste Treatment Methods:** Incineration is the preferred method for disposal of waste product.

**Waste Disposal Recommendations:** Dispose of contents/container in accordance with local, regional, national, territorial, provincial, and international regulations.

**Additional Information:** Handle empty containers with care because residual vapors are flammable. Empty gas cylinders should be returned to the vendor for recycling or refilling. Do not puncture or incinerate container.

**Ecology - Waste Materials:** Avoid release to the environment. This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

## SECTION 14: TRANSPORT INFORMATION

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued.

### 14.1. In Accordance with DOT

**Proper Shipping Name** : BUTANE  
**Hazard Class** : 2.1  
**Identification Number** : UN1011  
**Label Codes** : 2.1  
**ERG Number** : 115



### 14.2. In Accordance with IMDG

**Proper Shipping Name** : BUTANE  
**Hazard Class** : 2.1  
**Identification Number** : UN1011  
**Label Codes** : 2.1  
**EmS-No. (Fire)** : F-D  
**EmS-No. (Spillage)** : S-U



### 14.3. In Accordance with IATA

**Proper Shipping Name** : BUTANE  
**Hazard Class** : 2.1  
**Identification Number** : UN1011  
**Label Codes** : 2.1  
**ERG Code (IATA)** : 10L



### 14.4. In Accordance with TDG

**Proper Shipping Name** : BUTANE  
**Hazard Class** : 2.1  
**Identification Number** : UN1011  
**Label Codes** : 2.1



## SECTION 15: REGULATORY INFORMATION

### 15.1. US Federal Regulations

<b>Butane, Mixed</b>	
<b>SARA Section 311/312 Hazard Classes</b>	Physical hazard - Flammable (gases, aerosols, liquids, or solids) Physical hazard - Gas under pressure Health hazard - Simple asphyxiant
<b>n-Butane (106-97-8)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active	
<b>Isobutane (75-28-5)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active	
<b>Propane (74-98-6)</b>	

# Butane, Mixed

## Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations And According To The Hazardous Products Regulation (February 11, 2015).

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active

### Isopentane (78-78-4)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active

### n-Pentane (109-66-0)

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active

## 15.2. US State Regulations

### n-Butane (106-97-8)

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

### Isobutane (75-28-5)

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

### Propane (74-98-6)

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

### Isopentane (78-78-4)

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

### n-Pentane (109-66-0)

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

## 15.3. Canadian Regulations

### n-Butane (106-97-8)

Listed on the Canadian DSL (Domestic Substances List)

### Isobutane (75-28-5)

Listed on the Canadian DSL (Domestic Substances List)

### Propane (74-98-6)

Listed on the Canadian DSL (Domestic Substances List)

### Isopentane (78-78-4)

Listed on the Canadian DSL (Domestic Substances List)

### n-Pentane (109-66-0)

Listed on the Canadian DSL (Domestic Substances List)

## SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

**Date of Preparation or Latest** : 06/06/2023

**Revision**

**Other Information** : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200 and Canada's Hazardous Products Regulations (HPR) SOR/2015-17.

### GHS Full Text Phrases:

H220	Extremely flammable gas
H224	Extremely flammable liquid and vapor
H280	Contains gas under pressure; may explode if heated
H304	May be fatal if swallowed and enters airways
H336	May cause drowsiness or dizziness

# Butane, Mixed

## Safety Data Sheet

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H401	Toxic to aquatic life
H411	Toxic to aquatic life with long lasting effects

*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.*

NA GHS SDS 2015 (Can, US)