





## Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: November 03, 2020

**Trade name: Butane Fuel**

(Cont'd. of page 1)

**Components:**

|          |           |  |        |
|----------|-----------|--|--------|
| 106-97-8 | Butane    | Flam. Gas 1, H220<br>Press. Gas, H280<br>Simple Asphyxiant | 60-80% |
| 75-28-5  | Isobutane | Flam. Gas 1, H220<br>Press. Gas, H280<br>Simple Asphyxiant | 20-40% |
| 74-98-6  | Propane   | Flam. Gas 1, H220<br>Press. Gas, H280<br>Simple Asphyxiant | <5%    |

**Additional information:**

For the listed ingredient(s), the identity and/or exact percentage(s) are being withheld as a trade secret.  
For the wording of the listed Hazard Statements, refer to section 16.

### 4 First-aid measures

**Description of first aid measures**

· **After inhalation:** Supply fresh air; consult doctor in case of complaints.

**After skin contact:**

Generally the product does not irritate the skin.

In cases of frostbite, rinse with plenty of water. Do not remove clothing.

**After eye contact:**

Remove contact lenses if worn.

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

**After swallowing:**

Unlikely route of exposure.

If symptoms persist consult doctor.

· **Most important symptoms and effects, both acute and delayed:** No relevant information available.

· **Indication of any immediate medical attention and special treatment needed:**

No relevant information available.

### 5 Fire-fighting measures

**Extinguishing media****Suitable extinguishing agents:**

CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray.

· **For safety reasons unsuitable extinguishing agents:** Water stream.

**Special hazards arising from the substance or mixture**

Contains gas under pressure; may explode if heated.

In case of fire, the following can be released:

Carbon monoxide (CO)

**Advice for firefighters****Protective equipment:**

Wear fully protective suit.

Wear self-contained respiratory protective device.

· **Additional information:** Cool endangered receptacles with water spray.

(Cont'd. on page 3)



## Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: November 03, 2020

Trade name: Butane Fuel

(Cont'd. of page 2)

### 6 Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

**Environmental precautions** Avoid release to the environment.**Methods and material for containment and cleaning up**

Allow to evaporate.

Ensure adequate ventilation.

**Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

### 7 Handling and storage

**Handling****Precautions for safe handling:**

Open and handle receptacle with care.

Use only in well ventilated areas.

**Information about protection against explosions and fires:**

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Pressurized container: May burst if heated.

**Conditions for safe storage, including any incompatibilities****Requirements to be met by storerooms and receptacles:**

Use only receptacles specifically permitted for this substance/product.

**Information about storage in one common storage facility:** Store away from oxidizing agents.**Further information about storage conditions:**

Store in cool, dry conditions in well sealed receptacles.

Protect from heat and direct sunlight.

**Specific end use(s)** No relevant information available.

### 8 Exposure controls/personal protection

**Control parameters****Components with limit values that require monitoring at the workplace:****106-97-8 Butane**

|               |   |
|---------------|---|
| REL (USA)     | Long-term value: 1900 mg/m <sup>3</sup> , 800 ppm           |
| TLV (USA)     | Short-term value: 2370 mg/m <sup>3</sup> , 1000 ppm<br>(EX) |
| EL (Canada)   | Short-term value: 1000 ppm<br>EX                            |
| EV (Canada)   | Long-term value: 800 ppm<br>revoked as of 01/01/18          |
| LMPE (Mexico) | Long-term value: 1000 ppm                                   |

(Cont'd. on page 4)

## Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: November 03, 2020

**Trade name: Butane Fuel**

(Cont'd. of page 3)

### 75-28-5 Isobutane

TLV (USA) Short-term value: 2370 mg/m<sup>3</sup>, 1000 ppm (EX)

EL (Canada) Short-term value: 1000 ppm EX

EV (Canada) Long-term value: 800 ppm revoked as of 01/01/18

LMPE (Mexico) Long-term value: 1000 ppm

### 74-98-6 Propane

PEL (USA) Long-term value: 1800 mg/m<sup>3</sup>, 1000 ppm

REL (USA) Long-term value: 1800 mg/m<sup>3</sup>, 1000 ppm

TLV (USA) refer to Appendix F in TLVs&BEIs book; D, EX

EL (Canada) Simple asphyxiant; EX

EV (Canada) Long-term value: 1,000 ppm revoked as of 01/01/18

LMPE (Mexico) Long-term value: 1000 ppm

#### · Exposure controls

· **General protective and hygienic measures:** Wash hands before breaks and at the end of work.

· **Engineering controls:** No relevant information available.

· **Breathing equipment:** Use suitable respiratory protective device in case of insufficient ventilation.

#### · Protection of hands:

Wear protective gloves to handle contents of damaged or leaking units.

Protection may be required for spills.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

#### · Eye protection:



Safety glasses

Follow relevant national guidelines concerning the use of protective eyewear.

· **Body protection:** Protective work clothing

## 9 Physical and chemical properties

### · Information on basic physical and chemical properties

#### · Appearance:

Form: Compressed liquefied gas

Color: Colorless

· **Odor:** Like rotten eggs (mercaptans)

· **Odor threshold:** Not determined.

· **pH-value:** Not determined.

· **Melting point/Melting range:** Not determined.

· **Boiling point/Boiling range:** -11 °C (12.2 °F)

· **Flash point:** < 0 °C (< 32 °F)

(Cont'd. on page 5)



## Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: November 03, 2020

Trade name: Butane Fuel

(Cont'd. of page 4)

|   |  |
|---|--|
| · <b>Flammability (solid, gaseous):</b>           | Not determined.  |
| · <b>Auto-ignition temperature:</b>               | 365 °C (689 °F)  |
| · <b>Decomposition temperature:</b>               | Not determined.  |
| · <b>Danger of explosion:</b>                     | Product is not explosive. However, formation of explosive air/vapor mixtures are possible. |
| · <b>Explosion limits</b><br><b>Lower:</b>        | 1.5 Vol %  |
| <b>Upper:</b>                                     | 8.5 Vol %  |
| · <b>Oxidizing properties:</b>                    | Non-oxidizing.   |
| · <b>Vapor pressure at 20 °C (68 °F):</b>         | 3000 hPa (2250.2 mm Hg)  |
| · <b>Density at 20 °C (68 °F):</b>                | 0.55 g/cm <sup>3</sup> (4.59 lbs/gal)  |
| · <b>Relative density:</b>                        | Not determined.  |
| · <b>Vapor density:</b>                           | Not determined.  |
| · <b>Evaporation rate:</b>                        | Not applicable.  |
| · <b>Solubility in / Miscibility with Water:</b>  | Not miscible or difficult to mix.  |
| · <b>Partition coefficient (n-octanol/water):</b> | Not determined.  |
| · <b>Viscosity</b><br><b>Dynamic:</b>             | Not determined.  |
| <b>Kinematic:</b>                                 | Not determined.  |
| · <b>Other information</b>                        | No relevant information available.   |

### 10 Stability and reactivity

- **Reactivity:** No relevant information available.
- **Chemical stability:**
- **Thermal decomposition / conditions to be avoided:**  
Contains gas under pressure; may explode if heated.
- **Possibility of hazardous reactions**  
Extremely flammable gas.  
Reacts with oxidizing agents.
- **Conditions to avoid** Excessive heat and contact with oxidizers.
- **Incompatible materials** Oxidizers
- **Hazardous decomposition products**  
Under fire conditions only:  
Carbon monoxide  
Carbon monoxide and carbon dioxide

### 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:** Based on available data, the classification criteria are not met.

(Cont'd. on page 6)



## Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: November 03, 2020

**Trade name: Butane Fuel**

(Cont'd. of page 5)

- **LD/LC50 values that are relevant for classification:** None.
- **Primary irritant effect:**
- **On the skin:**  
No irritant effect.  
Contact with rapidly expanding gas may cause burns or frostbite.
- **On the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.

**IARC (International Agency for Research on Cancer):**

None of the ingredients are listed.

**NTP (National Toxicology Program):**

None of the ingredients are listed.

**OSHA-Ca (Occupational Safety & Health Administration):**

None of the ingredients are listed.

**Probable route(s) of exposure:**

Inhalation.  
Eye contact.  
Skin contact.

- **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.
- **Carcinogenicity:** Based on available data, the classification criteria are not met.
- **Reproductive toxicity:** Based on available data, the classification criteria are not met.
- **STOT-single exposure:** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure:** Based on available data, the classification criteria are not met.
- **Aspiration hazard:** Based on available data, the classification criteria are not met.

### 12 Ecological information

- **Toxicity**
- **Aquatic toxicity** No relevant information available.
- **Persistence and degradability** No relevant information available.
- **Bioaccumulative potential:** No relevant information available.
- **Mobility in soil:** No relevant information available.
- **Other adverse effects** No relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Contact waste processors for recycling information.  
The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes.
- **Uncleaned packagings**
- **Recommendation:** Disposal must be made according to official regulations.

(Cont'd. on page 7)



## Safety Data Sheet




according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: November 03, 2020

Trade name: Butane Fuel

(Cont'd. of page 6)

### 14 Transport information

|   |   |
|---|---|
| · UN-Number   |   |
| · DOT, ADR/RID/ADN, IMDG, IATA  | UN2037  |
| · UN proper shipping name   |   |
| · DOT, ADR/RID/ADN, IMDG, IATA  | RECEPTACLES, SMALL, CONTAINING GAS              |
| · Transport hazard class(es)  |   |
| · DOT   |   |
|    |   |
| · Class   | 2   |
| · Label   | 2.1   |
| · ADR/RID/ADN   |   |
|   |   |
| · Class   | 2 5F  |
| · Label   | 2.1   |
| · IMDG, IATA  |   |
|  |   |
| · Class   | 2   |
| · Label   | 2.1   |
| · Packing group   | This UN-number is not assigned a packing group. |
| · Environmental hazards   |   |
| · Marine pollutant:   | No  |
| · Special precautions for user  | Warning: Gases                                  |
| · Hazard identification number (Kemler code):                                       | -   |
| · EMS Number:   | F-D,S-U   |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code           | Not applicable.                                 |

### 15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- United States (USA)
- SARA

(Cont'd. on page 8)

**Safety Data Sheet**

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: November 03, 2020

**Trade name: Butane Fuel**

(Cont'd. of page 7)

**· Section 302 (extremely hazardous substances):**

None of the ingredients are listed.

**· Section 313 (Specific toxic chemical listings):**

None of the ingredients are listed.

**· TSCA (Toxic Substances Control Act)**

All ingredients are listed or exempt.

**· Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):**

|          |           |       |
|----------|-----------|-------|
| 106-97-8 | Butane    | 10000 |
| 75-28-5  | Isobutane | 10000 |
| 74-98-6  | Propane   | 10000 |

**· Proposition 65 (California)**

Note: There are no Proposition 65 substances listed in this chemical formulation. However, the metal container may contain trace amounts (less than 0.1% by weight) of lead, a substance known to the State of California to cause reproductive toxicity (males and females), developmental toxicity, and/or cancer. Increased risk of lead toxicity is not anticipated with normal use of this product. Notes below reference the chemical formulation only.

**· Chemicals known to cause cancer:**

None of the ingredients are listed.

**· Chemicals known to cause developmental toxicity for females:**

None of the ingredients are listed.

**· Chemicals known to cause developmental toxicity for males:**

None of the ingredients are listed.

**· Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

**· EPA (Environmental Protection Agency):**

None of the ingredients are listed.

**· IARC (International Agency for Research on Cancer):**

None of the ingredients are listed.

**· Canadian Domestic Substances List (DSL):**

All ingredients are listed or exempt.

**16 Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

**· Abbreviations and acronyms:**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road  
 IMDG: International Maritime Code for Dangerous Goods  
 DOT: US Department of Transportation  
 IATA: International Air Transport Association  
 CAS: Chemical Abstracts Service (division of the American Chemical Society)  
 LC50: Lethal concentration, 50 percent  
 LD50: Lethal dose, 50 percent  
 OSHA: Occupational Safety & Health Administration  
 Flam. Gas 1: Flammable gases – Category 1

(Cont'd. on page 9)





## Safety Data Sheet

according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations

Revision: November 03, 2020

**Trade name: Butane Fuel**

(Cont'd. of page 8)

Press. Gas: Gases under pressure – Compressed gas

Press. Gas: Gases under pressure – Liquefied gas

### · Sources

Website, European Chemicals Agency (echa.europa.eu)

Website, US EPA Substance Registry Services (ofmpub.epa.gov/sor internet/registry/substreg/home/overview/home.do)

Website, Chemical Abstracts Registry, American Chemical Society (www.cas.org)

Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: 978-0-470-07488-6

Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaasen, Curtis D., ed., ISBN: 978-0-07-176923-5.

Safety Data Sheets, Individual Manufacturers

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