



Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200) and WHMIS 2015 regulations

Printing date 11/16/2015

Reviewed on 11/16/2015

1 Identification

- **Product identifier**
- **Trade name:** Butane Gas Cartridge
- **Article number:** No other identifiers
- **Recommended use and restriction on use**
- **Recommended use:** Fuel
- **Restrictions on use:** Contact manufacturer
- **Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**
LeoLight inc
31 - 10 Planchet Rd
Concord, Ontario
1-800-267-6428
info@leolight.net
- **Emergency telephone number:**
ChemTel Inc.
(800)255-3924, +1 (813)248-0585

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flammable Gases - Category 1

H220 Extremely flammable gas.



GHS04 Gas cylinder

Gases Under Pressure - Liquefied Gas H280 Contains gas under pressure; may explode if heated.

Simple Asphyxiants - Category 1

May displace oxygen and cause rapid suffocation.

- **Additional information:**

There are no other hazards not otherwise classified that have been identified.

0 % of the mixture consists of component(s) of unknown toxicity.

- **Label elements**

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms:**



GHS02 GHS04

- **Signal word:** Danger

- **Hazard statements:**

H220 Extremely flammable gas.

H280 Contains gas under pressure; may explode if heated.

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May displace oxygen and cause rapid suffocation.

· **Precautionary statements:**







- 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.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

106-97-8	butane	 Flammable Gases - Category 1, H220  Gases Under Pressure - Compressed Gas, H280	55-80%
75-28-5	isobutane	 Flammable Gases - Category 1, H220  Gases Under Pressure - Compressed Gas, H280	20-40%
74-98-6	propane	 Flammable Gases - Category 1, H220  Gases Under Pressure - Compressed Gas, H280	<5.0%

· **Additional information:**

For the listed ingredient(s), the identity and exact percentage(s) are being withheld as a trade secret.

4 First-aid measures

· **Description of first aid measures**

· **General information:** No special measures required.

· **After inhalation:**

Supply fresh air.

Seek medical treatment in case of complaints.

· **After skin contact:** 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.

Do not induce vomiting; immediately call for medical help.

· **Information for doctor**

· **Most important symptoms and effects, both acute and delayed:**

Breathing difficulty

Dizziness

· **Danger:** May displace oxygen and cause rapid suffocation.

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

If necessary oxygen respiration treatment.

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5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents:** None.
- **Special hazards arising from the substance or mixture**
 - Extremely flammable gas.
 - Danger of receptacles bursting because of high vapor pressure if heated.
- **Advice for firefighters**
- **Protective equipment:**
 - Wear self-contained respiratory protective device.
 - Wear fully protective suit.
- **Additional information:**
 - Eliminate all ignition sources if safe to do so.
 - In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.
 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
 - Cool endangered receptacles with water spray.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures:**
 - Wear protective equipment. Keep unprotected persons away.
 - For large spills, use respiratory protective device against the effects of fumes/dust/aerosol.
 - Ensure adequate ventilation.
 - Keep away from ignition sources.
 - Protect from heat.
- **Environmental precautions:** No special measures required.
- **Methods and material for containment and cleaning up:** Allow to evaporate.
- **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:**
 - Use only in well ventilated areas.
 - Do not pierce or burn, even after use.
- **Information about protection against explosions and fires:**
 - Keep ignition sources away - Do not smoke.
 - Emergency cooling must be available in case of nearby fire.
 - Pressurized container: May burst if heated.
- **Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Store away from oxidizing agents.

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- **Further information about storage conditions:**
Store in a cool place. Heat will increase pressure and may lead to the receptacle bursting.
- **Specific end use(s):** No relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

Components with limit values that require monitoring at the workplace:

106-97-8 butane

REL (USA)	Long-term value: 1900 mg/m ³ , 800 ppm
TLV (USA)	Short-term value: 2370 mg/m ³ , 1000 ppm
EL (Canada)	Short-term value: 750 ppm Long-term value: 600 ppm
EV (Canada)	Long-term value: 800 ppm
LMPE (Mexico)	Long-term value: 1000 ppm

75-28-5 isobutane

TLV (USA)	Short-term value: 2370 mg/m ³ , 1000 ppm
EV (Canada)	Long-term value: 800 ppm
LMPE (Mexico)	Long-term value: 1000 ppm

74-98-6 propane

PEL (USA)	Long-term value: 1800 mg/m ³ , 1000 ppm
REL (USA)	Long-term value: 1800 mg/m ³ , 1000 ppm
TLV (USA)	refer to Appendix F in TLVs and BEIs book
EL (Canada)	Long-term value: 1000 ppm
EV (Canada)	Long-term value: 1,000 ppm
LMPE (Mexico)	Long-term value: 1000 ppm

- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Wash hands before breaks and at the end of work.
- **Breathing equipment:** Not required under normal conditions of use.
- **Protection of hands:** Not required.
- **Eye protection:** Follow relevant national guidelines concerning the use of protective eyewear.
- **Body protection:**
Not required under normal conditions of use.
Protection may be required for spills.
- **Limitation and supervision of exposure into the environment** No relevant information available.

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9 Physical and chemical properties

· Information on basic physical and chemical properties

· General information

· Appearance:

Form: Compressed liquefied gas

Color: Colorless

· Odor: Like rotten eggs (mercaptans)

· Odor threshold: Not determined.

· pH-value: Not determined.

· Change in condition:

Melting point/Melting range: Not determined.

Boiling point/Boiling range: Not determined.

· Flash point: -60 °C (-76 °F)

· Flammability (solid, gaseous): Extremely flammable liquefied gas.

· Auto-ignition temperature: 365 °C (689 °F)

· Decomposition temperature: Not determined.

· Auto igniting: Product is not self-igniting.

· Danger of explosion: Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

· Explosion limits:

Lower: 1.5 Vol %

Upper: 10 Vol %

· Oxidizing properties: Not determined.

· Vapor pressure at 20 °C (68 °F): 6.5 bar

· Density: Not determined.

· Relative density: Not determined.

· Vapor density: Not determined.

· Evaporation rate: Not applicable.

· Solubility in / Miscibility with:

Water: Not miscible or difficult to mix.

· Partition coefficient (n-octanol/water): Not determined.

· Viscosity:

Dynamic: Not determined.

Kinematic: Not determined.

· Other information: No relevant information available.

10 Stability and reactivity

· Reactivity: No relevant information available.

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- **Chemical stability:** Stable under normal temperatures and pressures.
- **Thermal decomposition / conditions to be avoided:**
Danger of receptacles bursting because of high vapor pressure if heated.
- **Possibility of hazardous reactions:**
Develops readily flammable gases / fumes.
Flammable.
Reacts with oxidizing agents.
Can form explosive mixtures in air if heated above flash point and/or when sprayed or atomized.
- **Conditions to avoid:**
Keep ignition sources away - Do not smoke.
Store away from oxidizing agents.
- **Incompatible materials:** No relevant information available.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **LD/LC50 values that are relevant for classification:** None.
- **Primary irritant effect:**
- **On the skin:** Based on available data, the classification criteria are not met.
- **On the eye:** Based on available data, the classification criteria are not met.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:** Asphyxiant gas.

· Carcinogenic categories

· **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.

· **Acute effects (acute toxicity, irritation and corrosivity):**

May displace oxygen and cause rapid suffocation.

· **Repeated dose toxicity:** No relevant information available.

· **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

· **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.

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12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No relevant information available.
- **Persistence and degradability:** No relevant information available.
- **Behavior in environmental systems**
- **Bioaccumulative potential:** No relevant information available.
- **Mobility in soil:** No relevant information available.
- **Additional ecological information**
- **General notes:** Generally not hazardous for water
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects:** No relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system. 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. Residual materials should be treated as hazardous.
- **Uncleaned packagings**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- | | |
|---|---------------------------------|
| · UN-Number | |
| · DOT, ADR, IMDG, IATA | UN1075 |
| · UN proper shipping name | |
| · DOT, IATA | Petroleum gases, liquefied |
| · ADR | 1075 PETROLEUM GASES, LIQUEFIED |
| · IMDG | PETROLEUM GASES, LIQUEFIED |
| · Transport hazard class(es) | |
| · DOT | |
|  | |
| · Class | 2.1 |

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· Label	2.1
· ADR	
	
· Class	2 2F Gases
· Label	2.1
· IMDG, IATA	
	
· Class	2.1
· Label	2.1
· Packing group	This UN-number is not assigned a packing group.
· DOT, ADR, IMDG, IATA	None
· Environmental hazards	Not applicable.
· Special precautions for user	Warning: Gases
· Danger code (Kemler):	23
· EMS Number:	F-D,S-U
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· DOT	
· Quantity limitations	On passenger aircraft/rail: Forbidden On cargo aircraft only: 150 kg
· ADR	
· Excepted quantities (EQ)	Code: E0 Not permitted as Excepted Quantity
· IMDG	
· Excepted quantities (EQ)	Code: E0 Not permitted as Excepted Quantity
· UN "Model Regulation"	UN 1075 PETROLEUM GASES, LIQUEFIED, 2.1

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15 Regulatory information

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

· Section 302 (extremely hazardous substances):

None of the ingredients are listed.

· Section 304 (emergency release notification):

None of the ingredients are listed.

· Sections 311/312 (hazardous chemical threshold planning quantity in pounds):

None of the ingredients are listed.

· Section 355 (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.

· Proposition 65 (California)

· Chemicals known to cause cancer:

None of the ingredients are listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

· Carcinogenic categories

· EPA (Environmental Protection Agency):

None of the ingredients are listed.

· IARC (International Agency for Research on Cancer):

None of the ingredients are listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health):

None of the ingredients are listed.

· Canada

· Canadian substance listings

· Canadian Domestic Substances List (DSL):

All ingredients are listed.

· Canadian Ingredient Disclosure list (limit 0.1%):

None of the ingredients are listed.

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· **Canadian Ingredient Disclosure list (limit 1%):**

106-97-8	butane
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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.

· **Date of preparation / last revision** 11/16/2015 / -

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (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

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flammable Gases - Category 1: Flammable gases, Hazard Category 1

Gases Under Pressure - Compressed Gas: Gases under pressure: Compressed gas

Gases Under Pressure - Liquefied Gas: Gases under pressure: Liquefied gas

· **Sources**

Website, European Chemicals Agency (<http://http://echa.europa.eu/>)

Website, US EPA Substance Registry Services (http://http://ofmpub.epa.gov/sor_internet/registry/substreg/home/overview/home.do)

Website, Chemical Abstracts Registry, American Chemical Society (<https://www.cas.org>)

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

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

Safety Data Sheets, Individual Manufacturers

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