



Butane

Safety Data Sheet

Prepared according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Revision date: 03/06/2015 Supersedes: 01/01/2014 Version: 1.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name : Butane
Product form : Mixture
Other means of identification : Butane; Commerical Butane; Liquefied Petroleum Gas; Normal Butane; N-Butane; Stenched Butane

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Liquefied Petroleum Gas

1.3. Details of the supplier of the safety data sheet

Apex Oil Company, Inc.
Clark Oil Trading Company
Enjet, LLC
8235 Forsyth Boulevard, Suite 400
St. Louis, Missouri 63105
General Assistance 1-314-889-9600

1.4. Emergency telephone number

Emergency number : Chemtrec: 1-800-424-9300 (Apex reference number: 225708)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

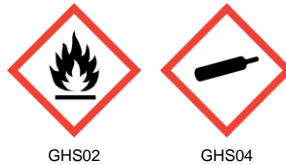
GHS-US classification

Flam. Gas 1 H220
Compressed gas H280

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

H220 - Extremely flammable gas
H280 - Contains gas under pressure; may explode if heated

Precautionary statements (GHS-US) :

P210 - Keep away from heat, open flames, sparks. - No smoking
P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely
P381 - Eliminate all ignition sources if safe to do so
P403 - Store in a well-ventilated place
P410+P403 - Protect from sunlight. Store in a well-ventilated place

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%
Butane	(CAS No) 106-97-8	> 94
Isobutane	(CAS No) 75-28-5	<= 4
Pentane	(CAS No) 109-66-0	<= 2
Propane	(CAS No) 74-98-6	<= 1

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SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : If exposed or concerned, get medical attention/advice. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before re-use. Never give anything to an unconscious person.
- First-aid measures after inhalation : IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if breathing is affected. If breathing is difficult, supply oxygen.
- First-aid measures after skin contact : IF ON SKIN (or clothing): Remove affected clothing and wash all exposed skin with water for at least 15 minutes. If irritation develops or persists, get medical attention.
- First-aid measures after eye contact : IF IN EYES: Immediately flush with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do so. Continue rinsing.
- First-aid measures after ingestion : IF SWALLOWED: rinse mouth thoroughly. Do not induce vomiting without advice from poison control center or medical professional. Get medical attention if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries : Not expected to present a significant hazard under anticipated conditions of normal use.
- Symptoms/injuries after inhalation : May cause respiratory irritation.
- Symptoms/injuries after skin contact : May cause skin irritation.
- Symptoms/injuries after eye contact : Direct contact with the eyes is likely to be irritating.
- Symptoms/injuries after ingestion : May cause gastrointestinal irritation.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Carbon dioxide. Dry chemical.

5.2. Special hazards arising from the substance or mixture

- Fire hazard : Extremely flammable gas.
- Explosion hazard : Heating may cause an explosion.
- Reactivity : Contains gas under pressure; may explode if heated.

5.3. Advice for firefighters

- Precautionary measures fire : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Firefighting instructions : Use water spray or fog for cooling exposed containers. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Exercise caution when fighting any chemical fire. Do not dispose of fire-fighting water in the environment.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Self-contained breathing apparatus.
- Other information : Do not allow run-off from fire fighting to enter drains or water courses - may cause explosion hazard in drains and may reignite. Vapors may travel long distances along ground before igniting/flashing back to vapor source. Vapors may form flammable and explosive mixture with air.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Evacuate area. Eliminate every possible source of ignition. Ventilate area. Keep upwind. Spill should be handled by trained clean-up crews properly equipped with respiratory equipment and full chemical protective gear (see Section 8).

6.1.1. For non-emergency personnel

- Protective equipment : Wear Protective equipment as described in Section 8.
- Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

- Protective equipment : Wear suitable protective clothing, gloves and eye or face protection. Approved supplied-air respirator, in case of emergency.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

- For containment : Stop leak if safe to do so. Vapors may be suppressed by water fog.

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Methods for cleaning up : Eliminate ignition sources. Use explosion-proof equipment. Beware of accumulation of gas in low areas or contained areas, where explosive concentrations may occur. Ventilate area. This material and its container must be disposed of in a safe way, and as per local legislation.

6.4. Reference to other sections

See Sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Do not handle until all safety precautions have been read and understood. Do not get in eyes, on skin, or on clothing. Cold burns may occur during filling operations. Containers and delivery lines may become cold enough to present cold burn hazard. Use appropriate personal protection equipment (PPE). Immediately rinse contaminated clothing thoroughly with water. Gas can accumulate in confined spaces and limit oxygen available for breathing. Use only in well-ventilated areas. Avoid breathing gas, vapors, mist. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge. Use explosion-proof equipment. Can form explosive mixtures with air. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

Naturally Occurring Radioactive Materials (NORM)

This product may contain detectable quantities of Naturally Occurring Radioactive Materials (NORM) above background levels. This NORM material consists of small amounts of radon, a naturally occurring radioactive gas; and the solid decay products of radon, called radon daughters. Transport vessels should be assessed for gamma radiation; access around the equipment may need to be restricted in accordance with OSHA 29 CFR 1910.96. For vessel entry, this equipment should be assumed to be internally contaminated with long half-life decay products that emit beta and alpha radiation, which is a radiation hazard if inhaled or ingested.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Containers, even those that have been emptied, can contain explosive vapors. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition.

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Direct sunlight, Incompatible materials, Food. Keep the container tightly closed. Avoid temperature extremes. Keep away from ignition sources. Containers which are opened should be properly resealed and kept upright to prevent leakage. Do not store in unlabeled containers.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Butane (106-97-8)	
ACGIH STEL (ppm)	1000
OSHA PEL (TWA) (mg/m ³)	1900
OSHA PEL (TWA) (ppm)	800
Isobutane (75-28-5)	
ACGIH STEL (ppm)	1000
Remark (OSHA)	OELs not established
Pentane (109-66-0)	
ACGIH TWA (ppm)	600 (listed under Pentane, all isomers)
OSHA PEL (TWA) (mg/m ³)	2950
OSHA PEL (TWA) (ppm)	1000
Propane (74-98-6)	
ACGIH TWA (ppm)	1000 (listed under Aliphatic hydrocarbon gases: Alkane C1-4)
OSHA PEL (TWA) (mg/m ³)	1800
OSHA PEL (TWA) (ppm)	1000

8.2. Exposure controls

Appropriate engineering controls : Provide adequate general and local exhaust ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof equipment with flammable materials. Ensure adequate ventilation, especially in confined areas.

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Personal protective equipment : Gloves. Protective goggles. Wear chemically impervious apron over labcoat and full coverage clothing.



Hand protection : Use gloves chemically resistant to this material when prolonged or repeated contact could occur. Gloves should be classified under Standard EN 374 or ASTM F1296. Suggested glove materials are: Neoprene, Nitrile/butadiene rubber, Polyethylene, Ethyl vinyl alcohol laminate, PVC or vinyl. Suitable gloves for this specific application can be recommended by the glove supplier.

Eye protection : Wear eye protection, including chemical splash goggles and a face shield when possibility exists for eye contact due to spraying liquid or airborne particles.

Skin and body protection : Wear long sleeves, and chemically impervious PPE/coveralls to minimize bodily exposure.

Respiratory protection : Use NIOSH-approved dust/particulate respirator. Where vapor, mist, or dust exceed PELs or other applicable OELs, use NIOSH-approved respiratory protective equipment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Gas
Appearance : Liquefied compressed gas.
Color : No data available
Odor : Petroleum-like odor.
Odor Threshold : No data available
pH : No data available
Relative evaporation rate (butylacetate=1) : > 1
Melting point : No data available
Freezing point : No data available
Boiling point : -1 °C (30.2 °F)
Flash point : -73 °C (- 100 °F) (estimate)
Auto-ignition temperature : 389.89 °C (750 °F)
Decomposition temperature : No data available
Flammability (solid, gas) : Extremely flammable gas
Vapor pressure : 2670 mm Hg (37 psia) @ 37.8 °C (100 °F)
Relative vapor density at 20 °C : 2 (Air = 1)
Relative density : 0.58 @ 15.6 °C (60 °F)
Solubility : Insoluble.
Water: Negligible
Log Pow : No data available
Log Kow : No data available
Viscosity, kinematic : No data available
Viscosity, dynamic : No data available
Explosive properties : No data available
Oxidising properties : No data available
Explosive limits : 1.9 - 8.5 vol %

9.2. Other information

VOC content : 100 %

SECTION 10: Stability and reactivity

10.1. Reactivity

Contains gas under pressure; may explode if heated.

10.2. Chemical stability

Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of hazardous reactions

None known.

10.4. Conditions to avoid

Avoid contact with : Ignition sources. Incompatible materials.

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10.5. Incompatible materials

Acids. Aluminum chloride. Chlorine. Chlorine dioxide. Halogens. Oxidizing agent.

10.6. Hazardous decomposition products

Carbon oxides (CO, CO₂)

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Butane (106-97-8)	
LC50 inhalation rat (mg/l)	658 g/m ³ 4 h

Isobutane (75-28-5)	
LC50 inhalation rat (mg/l)	658 mg/l/4h

Pentane (109-66-0)	
LD50 oral rat	> 2000 mg/kg
LD50 dermal rabbit	3000 mg/kg
LC50 inhalation rat (mg/l)	364 g/m ³ 4 h

Propane (74-98-6)	
LC50 inhalation rat (mg/l)	658 mg/l/4h

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
Specific target organ toxicity (single exposure) : Not classified
Specific target organ toxicity (repeated exposure) : Not classified
Aspiration hazard : Not classified
Symptoms/injuries after inhalation : May cause respiratory irritation.
Symptoms/injuries after skin contact : May cause skin irritation.
Symptoms/injuries after eye contact : Direct contact with the eyes is likely to be irritating.
Symptoms/injuries after ingestion : May cause gastrointestinal irritation.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : No information available.

12.2. Persistence and degradability

Butane	
Persistence and degradability	No information available.

12.3. Bioaccumulative potential

Butane	
Bioaccumulative potential	No information available.

12.4. Mobility in soil

Butane	
Ecology - soil	No information available.

12.5. Other adverse effects

Other adverse effects : The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. The product contains volatile organic compounds which have a photochemical ozone creation potential.

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SECTION 13: Disposal considerations

13.1. Waste treatment methods

- Waste treatment methods : Obtain the consent of pollution control authorities before discharging to wastewater treatment plants.
- Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Do not allow the product to be released into the environment.

SECTION 14: Transport information

In accordance with DOT

- Transport document description : UN1011 Butane (see also Petroleum gases, liquefied), 2.1
- UN-No.(DOT) : 1011
- DOT NA no. : UN1011
- Proper Shipping Name (DOT) : Butane
see also Petroleum gases, liquefied
- Department of Transportation (DOT) Hazard Classes : 2.1 - Class 2.1 - Flammable gas 49 CFR 173.115
- Hazard labels (DOT) : 2.1 - Flammable gas



- 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"
- Additional information**
- Other information : No supplementary information available.

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

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All chemical substances in this product are listed in the EPA (Environment Protection Agency) TSCA (Toxic Substances Control Act) Inventory
All the constituents of this preparation are registered in the EINECS inventory or in the ELINCS list

SARA Section 311/312 Hazard Classes	Fire hazard Reactive hazard
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15.2. International regulations

CANADA

Unleaded Gasoline (NO Ethanol)

All chemical substances in this product are listed on the Canadian DSL (Domestic Substances List)

15.3. US State regulations

California Proposition 65

This product does not contain any substances known to the state of California to cause cancer and/or reproductive harm.

Butane (106-97-8)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

Isobutane (75-28-5)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

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Pentane (109-66-0)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

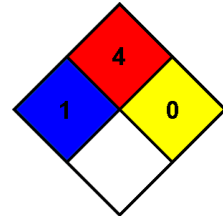
Propane (74-98-6)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

Indication of changes : Revision 1.0: New SDS Created.
Revision date : 03/06/2015
Other information : Author: BCS.

NFPA health hazard : 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.
NFPA fire hazard : 4 - Will rapidly or completely vaporize at normal pressure and temperature, or is readily dispersed in air and will burn readily.
NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

Health : 1
Flammability : 4
Physical : 0
Personal Protection :

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