



SAFETY DATA SHEET

1. Identification

Product identifier Butane (Commercial Grade)
Other means of identification
SDS number 5
Recommended use Fuel.
Recommended restrictions None known.
Manufacturer / Importer / Supplier / Distributor information

Company name DCP Midstream
Address 370 17 Street Suite 2500 Denver, CO 80202
Telephone (303) 595-3331
E-mail safety@dcpmidstream.com
Contact person Mark Prewitt
Emergency phone number CHEMTREC - 24 HOURS: 800-424-9300

2. Hazard(s) identification

Physical hazards Flammable gases Category 1
Gases under pressure Liquefied gas
Health hazards Not classified.
OSHA hazard(s) Simple asphyxiant

Label elements

Hazard symbol



Signal word

Hazard statement

Danger
Extremely flammable gas. Contains gas under pressure; may explode if heated. May displace oxygen and cause rapid suffocation.

Precautionary statement

Prevention

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Response

Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Eliminate all ignition sources if safe to do so.

Storage

Store in a well-ventilated place.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC)

Not classified.

3. Composition/information on ingredients

Mixture

Hazardous components

| Chemical name | Common name and synonyms | CAS number | % |
|---------------|--------------------------|------------|----|
| Butane | | 106-97-8 | 94 |
| Isobutane | | 75-28-5 | 4 |
| Pentane | | 109-66-1 | 2 |
| Propane | | 74-98-6 | 1 |

Composition comments

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures**Inhalation**

Immediately remove from further exposure. Get immediate medical assistance. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection.

Give supplemental oxygen, if available. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

No specific first aid measures noted.

Skin contact**Eye contact**

Immediately flush with plenty of water for at least 15 minutes. Get medical attention if irritation develops or persists.

Ingestion

Not likely, due to the form of the product.

Most important symptoms/effects, acute and delayed

Very high exposure can cause suffocation from lack of oxygen.

Indication of immediate medical attention and special treatment needed

Treat symptomatically.

General information

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures**NFPA 704 Hazard Class**

Health: 1

Flammability: 4

Instability: 0

(0-Minimal, 1-Slight, 2-Moderate, 3-Serious, 4-Severe)

Suitable extinguishing media

Carbon dioxide or dry powder.

Unsuitable extinguishing media

None known.

Specific hazards arising from the chemical

Cylinders can burst violently when heated, due to excess pressure build-up. Gas may travel considerable distance to a source of ignition and flash back. May form explosive mixtures with air.

Special protective equipment and precautions for firefighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace.

Fire-fighting equipment/instructions

Evacuate area. Allow gas to burn if flow cannot be shut off immediately. Apply water from safe distance to cool container and protect surrounding area.

6. Accidental release measures**Personal precautions, protective equipment and emergency procedures**

Eliminate all sources of ignition. Keep public away from danger area. Ventilate closed spaces before entering. Do not breathe gas. Wear appropriate personal protective equipment.

Methods and materials for containment and cleaning up

Stop leak if you can do so without risk. Allow gas to dissipate into the atmosphere.

Environmental precautions

Environmental manager must be informed of all major spillages.

7. Handling and storage

Precautions for safe handling

Provide adequate ventilation. Do not enter storage areas or confined spaces unless adequately ventilated. Vapors are heavier than air and may travel along the floor and in the bottom of containers. Vapors may be ignited by a spark, a hot surface or an ember. Take precautionary measures against static discharges. Do not breathe gas. Avoid contact with eyes, skin, and clothing. Wear appropriate personal protective equipment. The product is extremely flammable. May form explosive mixtures with air. Avoid heat, sparks, open flames and other ignition sources.
Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Provide adequate ventilation. Keep away from heat, sparks and open flame.

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.

8. Exposure controls/personal protection**Occupational exposure limits****U.S. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

| Components | Type | Value |
|-----------------------|------|------------------------|
| Pentane (109-66-0) | PEL | 2950 mg/m ³ |
| | | 1000 ppm |
| Propane (CAS 74-98-6) | PEL | 1800 mg/m ³ |
| | | 1000 ppm |

U.S. ACGIH Threshold Limit Values

| Components | Type | Value |
|-------------------------|------|----------|
| Butane (CAS 106-97-8) | TWA | 1000 ppm |
| Isobutane (CAS 75-28-5) | TWA | 1000 ppm |
| Pentane (CAS 109-66-0) | TWA | 600 ppm |
| Propane (CAS 74-98-6) | TWA | 1000 ppm |

US. NIOSH: Pocket Guide to Chemical Hazards

| Components | Type | Value |
|-------------------------|---------|------------------------|
| Butane (CAS 106-97-8) | REL | 1900 mg/m ³ |
| | | 800 ppm |
| Isobutane (CAS 75-28-5) | REL | 1900 mg/m ³ |
| | | 800 ppm |
| Pentane (CAS 109-66-0) | Ceiling | 1800 mg/m ³ |
| | | 610 ppm |
| | REL | 350 mg/m ³ |
| Propane (CAS 74-98-6) | REL | 1800 mg/m ³ |
| | | 1000 ppm |

| | |
|---|--|
| Biological limit values | No biological exposure limits noted for the ingredient(s). |
| Appropriate engineering Controls | Explosion proof exhaust ventilation should be used. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. |

Individual protection measures, such as personal protective equipment

| | |
|--|--|
| Eye/face protection | Risk of contact: Wear safety glasses with side shields. |
| Skin protection Hand protection | Avoid exposure - obtain special instructions before use. Use personal protective equipment as required. Protective gloves. |
| Other | Wear suitable protective clothing. |
| Respiratory protection | If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. |
| Thermal hazards | Wear appropriate thermal protective clothing, when necessary. |
| General hygiene considerations | Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Observe any medical surveillance requirements. |

9. Physical and chemical properties

| | |
|---|-------------------------------|
| Appearance | Colorless gas. |
| Physical state | Gas. |
| Form | Liquefied gas. |
| Color | Colorless. |
| Odor | Hydrocarbon-like. (repulsive) |
| Odor threshold | Not available. |
| pH | Not available. |
| Melting point/freezing point | Not available. |
| Initial boiling point and boiling range | 30.2 °F (-1 °C) |
| Flash point | -100 °F (-73.3 °C) |
| Evaporation rate | Not available. |
| Flammability (solid, gas) | Extremely flammable gas. |
| Upper/lower flammability or explosive limits | |
| Flammability limit – lower (%) | 1.9 % |
| Flammability limit – upper (%) | 8.5 % |
| Vapor pressure | Not available. |
| Vapor density | Not available. |
| Relative density | 0.58 (Water=1) |
| Relative density temperature | 60 °F (15.6 °C) |
| Solubility(ies) | Not available. |
| Partition coefficient | |

| | |
|---------------------------|--------------------|
| (n-octanol/water) | Not available. |
| Auto-ignition temperature | 750 °F (389.89 °C) |
| Decomposition temperature | Not available. |
| Viscosity | Not available. |

10. Stability and reactivity

| | |
|------------------------------------|---|
| Reactivity | None under normal conditions. |
| Chemical stability | Stable under normal temperature conditions. |
| Possibility of hazardous Reactions | Hazardous polymerization does not occur. |
| Conditions to avoid | Heat, flames and sparks. |
| Incompatible materials | Strong oxidizing agents. |
| Hazardous decomposition Products | Carbon dioxide. Carbon monoxide. |

11. Toxicological information

Information on likely routes of exposure

| | |
|--|--|
| Ingestion | Not likely, due to the form of the product. |
| Inhalation | Breathing of high concentrations may cause dizziness, light-headedness, headache, nausea and loss of coordination. Continued inhalation may result in unconsciousness. Suffocation(asphyxiant) hazard - if allowed to accumulate to concentrations that reduce oxygen below safe breathing levels. |
| Skin contact | Not likely due to the form of the product. |
| Eye contact | May cause irritation |
| Symptoms related to the physical, chemical and toxicological characteristics | Very high exposure can cause suffocation from lack of oxygen. |

Information on toxicological effects

| | |
|----------------|--|
| Acute toxicity | This product is an asphyxiant gas which can cause unconsciousness/death if OXYGEN levels are sufficiently reduced. |
|----------------|--|

| Components | Species | Test Results |
|------------------------|---------|-------------------|
| Butane (CAS 106-97-8) | | |
| Acute | | |
| <i>Inhalation</i> | | |
| LC50 | Rat | 658 mg/l, 4 Hours |
| Pentane (CAS 109-66-0) | | |
| Acute | | |
| <i>Inhalation</i> | | |
| LC50 | Rat | 364 mg/l, 4 Hours |
| Propane (CAS 74-98-6) | | |
| Acute | | |

Inhalation

LC50

Rat

> 1442.847 mg/l, 15 minutes

| | |
|---|---|
| Skin corrosion/irritation | Not likely, due to the form of the product. |
| Serious eye damage/eye Irritation | May cause eye irritation. |
| Respiratory sensitization | Not available. |
| Skin sensitization | Not a skin sensitizer. |
| Germ cell mutagenicity | No data available. |
| Carcinogenicity | No data available. |
| Reproductive toxicity | No data available. |
| Specific target organ toxicity - single exposure | Not classified. |
| Specific target organ toxicity - repeated exposure | Not classified. |
| Aspiration hazard | Not available. |
| Chronic effects | Prolonged exposure may cause chronic effects. |

12. Ecological information

Ecotoxicity 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.

| Product | Species | Test Results |
|--|----------------|-------------------------------|
| Normal Butane (Commercial Grade) (CAS Mixture) | | |
| Aquatic | | |
| Crustacea | Daphnia | 115 mg/l, 48 Hours (est) |
| Fish | Fish | 141.8115 mg/l, 96 Hours (est) |

| Components | Species | Test Results |
|------------------------|----------------|---------------------|
| Pentane (CAS 109-66-0) | | |
| Aquatic | | |
| Crustacea | Daphnia | 2.3 mg/ l, 48 hours |
| Fish | Fish | 3.1 mg/ l, 96 hours |

Persistence and degradability No data available.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

| | |
|-----------|------|
| Propane | 2.36 |
| Isobutane | 2.76 |
| Butane | 2.89 |
| Pentane | 3.39 |

Mobility in soil Not available.

Other adverse effects Not established.

13. Disposal considerations

Disposal instructions Product is suitable for burning in an enclosed, controlled burner for fuel value or disposal by supervised incineration.

Local disposal regulations Dispose of in accordance with local regulations.

Hazardous waste code D001: Waste Flammable material with a flash point <140 °F

Waste from residues / unused

products

Dispose of in accordance with local regulations.

Contaminated packaging Not applicable.

14. Transport information

DOT

| | |
|-------------------------------------|---|
| UN number | UN1011 |
| UN proper shipping name | Butane |
| Transport hazard class | 2.1 |
| Packing group | Not available. |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. |
| Labels required | 2.1 |
| Special provisions | 19, T50 |
| Packaging exceptions | 306 |
| Packaging non bulk | 304 |
| Packaging bulk | 314, 315 |
| ERG Number | 115 |

IATA

| | |
|-------------------------------------|---|
| UN number | UN1011 |
| UN proper shipping name | Butane |
| Transport hazard class | 2.1 |
| Packaging group | Not available. |
| Labels required | 2.1 |
| ERG Code | Not available. |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. |

IMDG

| | |
|--------------------------------|----------------|
| UN number | UN1011 |
| UN proper shipping name | Butane |
| Transport hazard class | 2.1 |
| Packaging group | Not available. |
| Labels required | 2.1 |
| EmS | Not available. |

Special precautions

for user Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to

Annex II of MARPOL 73/78 and

the IBC Code

Not applicable.

15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not on regulatory list.

CERCLA Hazardous Substance List (40 CFR 302.4)

Butane (CAS 106-97-8) LISTED

Isobutane(CAS 75-28-5) LISTED

Pentane (CAS 109-66-0) LISTED

Propane (CAS 74-98-6) LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
 Delayed Hazard - Yes
 Fire Hazard - Yes
 Pressure Hazard - No
 Reactivity Hazard - No

SARA 302 Extremely hazardous substance No
SARA 311/312 Hazardous Chemical Yes

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

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

Butane (CAS 106-97-8)
 Isobutane(CAS 75-28-5)
 Pentane (CAS 109-66-0)
 Propane (CAS 74-98-6)

Safe Drinking Water Act (SDWA)

Not regulated.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Not listed.

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Not regulated.

DEA Exempt Chemical Mixtures Code Number

Not regulated.

Food and Drug Administration (FDA)

Not regulated.

US state regulations

This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

US. Massachusetts RTK - Substance List

Butane (CAS 106-97-8)
 Isobutane(CAS 75-28-5)
 Pentane (CAS 109-66-0)
 Propane (CAS 74-98-6)

US. New Jersey Worker and Community Right-to-Know Act

Butane (CAS 106-97-8) 500 LBS
 Isobutane(CAS 75-28-5) 500 LBS
 Pentane (CAS 109-66-0) 500 LBS
 Propane (CAS 115-07-1) 500 LBS

US. Pennsylvania RTK - Hazardous Substances

Butane (CAS 106-97-8)
 Isobutane(CAS 75-28-5)
 Pentane (CAS 109-66-0)
 Propane (CAS 74-98-6)

US. Rhode Island RTK

Butane (CAS 106-97-8)
 Isobutane(CAS 75-28-5)
 Pentane (CAS 109-66-0)
 Propane (CAS 74-98-6)

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Not listed.

International Inventories

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|-----------------------------|---|------------------------|
| Canada | Domestic Substances List (DSL) | Yes |
| Canada | Non-Domestic Substances List (NDSL) | No |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s)

16. Other information, including date of preparation or last version

Issue date 11-28-2012

Revision date 2-4--2013

Version # 01

Further information Not available.

References ACGIH

EPA: Acquire database

NLM: Hazardous Substances Data Base

US. IARC Monographs on Occupational Exposures to Chemical Agents

Disclaimer This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.