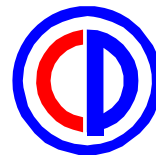


# SAFETY DATA SHEET



Butane

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SECTION 1: IDENTIFICATION	
(a) PRODUCT IDENTIFIER: Butane	(b) OTHER MEANS OF IDENTIFICATION: Commercial butane, Liquefied petroleum gas, normal butane, N-butane
	<b>Product Group:</b> Liquid <b>Chemical Family:</b>

(c) **Identified Use:** Liquefied petroleum gas

(d) **Manufacturer:**

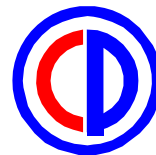
Colonial Pipeline Company. • 1000 Lake Street • Alpharetta, GA 30009 • 678-762-2200

Fax: 678-762-2466 • Email: [info@colpipe.com](mailto:info@colpipe.com) • Website: [www.colpipe.com](http://www.colpipe.com)

(e) **EMERGENCY PHONE NUMBER: US: 1-800-424-9300 • INTL: +1-703-527-3887 • 24 hours/day, 7 days/week**

SECTION 2: HAZARDS IDENTIFICATION					
The categories of Health Hazards as defined in OSHA 29 CFR 1910.1200 Hazard Communication Standard have been evaluated and are listed below. Refer to Sections 3, 8, and 11 for additional information.					
Human Health Hazards					
Hazard Classification	(a) Hazard Category	(b) Hazard Symbols	(b) Signal Word	(b) Hazard Statement	(b) Precautionary Statement
Acute Toxicity (Oral)	N/C	--	--	--	--
Acute Toxicity (Dermal)	N/C	--	--	--	--
Acute Toxicity (Inhalation)	N/C	--	--	--	--
Skin Corrosion/Irritation	N/C	--	--	--	--
Eye Damage/Irritation	N/C	--	--	--	--
Respiratory Sensitization	N/C	--	--	--	--
Skin Sensitization	N/C	--	--	--	--
Germ Cell Mutagenicity	1B		Danger	May cause genetic defects	Wear protective clothing P201, P202, P280, P308, P313, P405, P501

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## SECTION 2: HAZARDS IDENTIFICATION

The categories of Health Hazards as defined in OSHA 29 CFR 1910.1200 Hazard Communication Standard have been evaluated and are listed below. Refer to Sections 3, 8, and 11 for additional information.

### Human Health Hazards

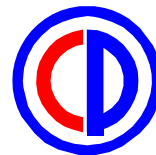
Hazard Classification	(a) Hazard Category	(b) Hazard Symbols	(b) Signal Word	(b) Hazard Statement	(b) Precautionary Statement
Carcinogenicity	1A		Danger	May cause cancer	P201, P202, P280, P308/313, P405, P501
Reproductive Toxicity	N/C	--	--	--	--
Specific Target Organ Toxicity (STOT) Single-Exposure	N/C	--	--	--	--
Specific Target Organ Toxicity (STOT) Repeated or Prolonged Exposure	N/C	--	--	--	--
Aspiration Hazard	N/C	--	--	--	--

### Physical Hazards

Hazard Classification	Hazard Category	Hazard Symbols	Signal Word	Hazard Statement	Precautionary Statement
Explosives	N/A	--	--	--	--
Flammable Gases	1		Danger	Extremely flammable gas	P210, P403
Flammable Aerosols	N/A	--	--	--	--
Oxidizing Gases	N/A	--	--	--	--
Gases Under Pressure	Liquified gas		Warning	Contains gas under pressure; may explode if heated	Protect from sunlight, P403
Flammable Liquids	N/A	--	--	--	--
Flammable Solids	N/A	--	--	--	--
Self-reactive Substances and Mixtures	N/A	--	--	--	--

# SAFETY DATA SHEET

Butane



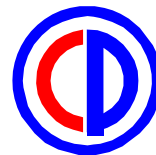
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Physical Hazards					
Hazard Classification	Hazard Category	Hazard Symbols	Signal Word	Hazard Statement	Precautionary Statement
Substances and mixtures which react with water to emit flammable gases	N/A	--	-	-	-
Oxidizing Liquids	N/A	--	-	-	-
Oxidizing Solids	N/A	-	-	-	-
Organic Peroxides	N/A	-	-	-	-
Corrosive to Metals	N/A	-	-	-	-

Health Hazard Precautionary Statement	
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P233	Keep container tightly closed.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/ protective clothing/eye protection/face protection.
P301	If swallowed:
P310	Immediately call a poison center or doctor.
P304	If inhaled:
P340	Remove person to fresh air and keep comfortable for breathing.
P305	If in eyes: Rinse cautiously with water for several minutes.
P351	Remove contact lenses.
P338	Continue rinsing.
P337	If eye irritation persists.
P313	Get medical advice/attention.
P308	If exposed or concerned:
P312	Call a poison center or doctor if you feel unwell.
P314	Get medical advice/attention if you feel unwell.
P403	Store in a well-ventilated place.
P405	Store locked up.
P501	Dispose of contents/container to an approved facility.

Physical Hazard Precautionary Statement	
P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233	Keep container tightly closed.
P235	Keep cool.
P240	Ground/Bond container and receiving equipment.

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Physical Hazard Precautionary Statement	
P241	Use explosion-proof electrical/ventilating/lighting/equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P264	Wash all body parts in contact with material thoroughly after handling.
P280	Wear protective gloves/eye protection/face protection.
P303	If on skin or hair:
P352	Wash with plenty of water
P353	Rinse skin with water/shower.
P361	Remove/take off immediately all contaminated clothing.
P362/P364	Take off contaminated clothing and wash it before reuse.
P332/P313	If skin irritation occurs: Get medical advice/attention.
P370	In case of fire.
P378	Use dry chemical, carbon dioxide, or foam for extinction.
P403	Store in a well-ventilated place.
P501	Dispose of contents/container to an approved disposal facility.

Hazard Classification	(a) Hazard Category	(b) Hazard Symbols	(b) Signal Word	(b) Hazard Statement	(b) Precautionary Statement
<b>Environmental Hazards</b>					
Acute Toxicity to the Aquatic Environment	--	--	--	--	--
Chronic Toxicity to the Aquatic Environment	--	--	--	--	--

(d) Unknown toxicity: N/A

(e) Unknown ecotoxicity: N/A

Medical conditions which are generally recognized as being aggravated by exposure: N/A

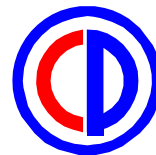
SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS <sup>1</sup>			
(a) Chemical name (b) (Common name and synonyms)	(c) CAS No.	(c) EC No.	(b) % Weight*
Butane <sup>1</sup>	106-97-8	203-448-7	95 – 100 %
Isobutane <sup>1</sup>	75-28-5	270-671-4	0.1 – 4 %
Pentane	109-66-0	232-366-4	0.1 – 2 %
Propane	74-98-6	265-060-4	0.1 – 1 %

<sup>1</sup> May contain  $\geq 0.1\%$  butadiene (203-450-8)

## SECTION 4: FIRST AID MEASURES

(a) Description of necessary measures:

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<b>INHALATION:</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt, or waistband.
<b>INGESTION:</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention. Ingestion can cause burns similar to frostbite. If frostbite occurs, get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt, or waistband. As this product rapidly becomes a gas when released, refer to the inhalation section.
<b>SKIN CONTACT:</b>	Flush contaminated skin with plenty of water. To avoid the risk of static discharges and gas ignition, soak contaminated clothing thoroughly with water before removing it. Continue to rinse for at least 20 minutes. Get medical attention. In case of contact with liquid, warm frozen tissues slowly with lukewarm water and get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
<b>EYE CONTACT:</b>	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes: Get medical attention.

**(b) Most important symptoms/effects:**

- **Acute:** Contact with rapidly evaporating liquid could result in freezing of the tissues or frostbite
- **Delayed:** Adverse symptoms may include frostbite

**(c) Indication of immediate medical attention and special treatment, if necessary**

**Notes to physician:** Treat symptomatically and supportively. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

**Specific treatments:** none

**General advice:** In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Show this safety data sheet to the doctor in attendance. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

## SECTION 5: FIRE FIGHTING MEASURES

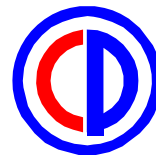
**(a) Suitable extinguishing media:** Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media:** None known.

**(b) Specific hazards arising from the chemical:** Contains gas under pressure. Extremely flammable gas. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapo/gas is heavier than air and will spread along the ground. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion.

**(c) Special protective equipment and precautions for fire-fighters:** Contact supplier immediately for specialist advice. Move containers from fire area if this can be done without risk. If involved in fire, shut off flow immediately if it can be

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done safely. If this is impossible, withdraw from area and allow fire to burn. Fight fire from protected location or maximum possible distance. Eliminate all ignition sources if safe to do so. Fire fighters should use appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full-face piece operated in positive pressure mode. For incidents involving large quantities, thermally insulated undergarments and thick textile or leather gloves should be worn.

**(d) Flammability/Explosivity:** NFPA RATING Hazard Class:

Health = 1

Fire = 4

Instability = 0

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



**(e) Hazardous Decomposition Products:** Normal combustion forms carbon dioxide and water vapor; incomplete combustion may produce carbon monoxide.

### SECTION 6: ACCIDENTAL RELEASE MEASURES

**(a) Personal precautions, Protective equipment, and Emergency procedures:** Accidental releases pose a serious fire or explosion hazard. No action shall be taken involving any personal risk without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Eliminate all ignition sources. No flares, smoking, or flames in hazard area. Avoid inhalation of vapors. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Avoid contact with skin and eyes. Put on appropriate personal protective equipment.

**(b) Methods and materials for containment and cleaning up:** Remove sources of ignition. Beware of explosion danger. Stop flow of product if it is safe to do so. Notify relevant authorities in accordance with all applicable regulations. Immediate cleanup of any spill is recommended if possible. Dike the spilled material. Absorb spill with inert material such as sand or vermiculite, and place in suitable container for disposal. If spilled on water, remove with appropriate methods (e.g., skimming, booms, or absorbent boom). In the case of soil contamination, remove contaminated soil for remediation or disposal, in accordance with local regulations. Recommended measures are based on the most likely spill scenarios for this material; however, local conditions and regulations may influence or limit the choice of appropriate actions to be taken.

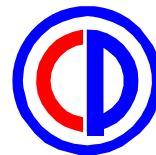
**(c) Environmental Precautions:**

Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### SECTION 7: HANDLING AND STORAGE

**(a) Precautions for safe handling, protective measures, and advice on general occupational hygiene:** Put on appropriate personal protective equipment (see Section 8). Contains gas under pressure. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Avoid breathing gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous. Do not puncture or incinerate container.

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Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures. Remove contaminated clothing and protective equipment before entering eating areas.

**(b) Conditions for safe storage, including any incompatibilities:** Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Store locked up. Eliminate all ignition sources. Keep container tightly closed and sealed until ready for use.

### SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:				
Components	OSHA PEL <sup>a</sup>	ACGIH TLV <sup>b</sup>	Manufacturer REL <sup>c</sup>	IDLH <sup>d</sup>
Butane <sup>1</sup>	NE	1000 ppm	NE	1,600 ppm (10% LEL <sup>e</sup> )
Isobutane <sup>1</sup>	NE	1000 ppm	NE	NE
Pentane	1000 ppm (TWA)	600 ppm (TWA)	NE	1,500 ppm (10% LEL <sup>e</sup> )
Propane	1000 ppm (TWA)	1000 ppm (TWA)	NE	2,100 ppm (10% LEL <sup>e</sup> )

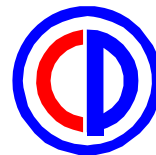
#### Notes:

- OSHA PEL are 8-hour TWA (Time-weighted average) concentrations unless otherwise noted. A (“C”) designation denotes a ceiling limit, which should not be exceeded during any part of the working exposure unless otherwise noted. A Short-Term Exposure Limit (STEL) is defined as a 15-minute exposure, which should not be exceeded at any time during a workday.
- Threshold Limit Values – TWA established by the ACGIH represents the TWA concentration for a conventional 8-hour workday and a 40-hour workweek, to which it is believed that nearly all workers may be repeatedly exposed, day after day, for a working lifetime without adverse effect; Short-Term Exposure Limit (TLV-STEL) represents a 15-minute TWA exposure that should not be exceeded at any time during a work day. ACGIH TLV’s are for guideline purposes only and as such are not legal, regulatory limits for compliance purposes.
- No exposure limits have been developed by the producer.
- The “immediately dangerous to life or health air concentration values (IDLHs)” are used by NIOSH as part of a respiratory selection criteria.
- NIOSH has adapted a threshold of 10% of the lower explosive limit (10% LEL) as a default basis for the IDLH value, based on explosivity concerns.

<sup>1</sup> May contain ≥ 0.1% butadiene (203-450-8)

**(b) Appropriate engineering and environmental exposure controls:** Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust

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concentrations below any lower explosive limits. Use explosion-proof ventilation equipment. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

### (c) Individual protection measures:

Eye/face protection: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin Protection: Wear appropriate clothing to prevent skin contact. Thoroughly decontaminate any articles of clothing that come into contact with product. The use of gloves is advised to prevent skin exposure and contact. Users should check with manufacturers to confirm the breakthrough performance of their products. Depending on exposure and conditions, additional protection may be necessary to prevent skin contact including items such as chemical resistant boots, aprons, arm covers, hoods, coveralls, or encapsulated suits. All PPE should be selected and worn in accordance with 29 CFR 1910.132 and 1910.138. Flame resistant clothing that meets the NFPA 212 and CAN/CGSB 155.20 standards is recommended in areas where material is stored or handled.

Respiratory protection: Use a properly fitted, air-purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

**(d) General hygiene considerations:** Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

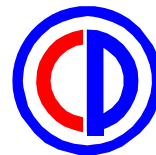
## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties	
(a) Appearance:	Clear liquified gas
(b) Odor:	Petroleum
(c) Odor Threshold:	N/A
(d) pH:	N/A
(e) Melting point/Freezing point:	N/A
(f) Boiling point/range:	-1°C (30.2°F)
(g) Flash Point:	Closed cup: -73°C (-99.4°F)
(h) Evaporation rate:	> 1 (Ethyl Ether = 1)
(i) Flammability:	N/A
(j) UFL/LFL or UEL/LEL:	N/A
(k) Vapor pressure:	13.8 – 68.9 kPa (103.5 – 516.8mm Hg) [37.8°C]
(l) Vapor density (air = 1.0):	2
(m) Relative density (water = 1.0):	0.70 – 0.85 [15.6°C]
(n) Solubility in water:	N/A
(o) Partition coefficient:	N/A



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Physical and Chemical Properties	
(p) Auto-ignition temperature:	N/A
(q) Decomposition temperature:	N/A
(r) Viscosity:	N/A

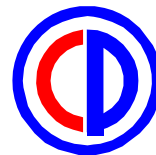
## SECTION 10: STABILITY AND REACTIVITY

- (a) **Reactivity:** No specific test data related to reactivity available for this product or its ingredients. When heated sufficiently or when ignited in the presence of air oxygen, Butane will burn exothermically to produce carbon dioxide and water.
- (b) **Chemical stability:** Material is stable under normal conditions.
- (c) **Possibility of hazardous reactions:** Under normal conditions of storage and use, hazardous reaction will not occur
- (d) **Conditions to avoid (e.g., static discharge, shock, or vibration):** Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind, or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas.
- (e) **Incompatible materials:** Oxidizing materials and acids
- (f) **Hazardous decomposition products:** Under normal conditions of storage and use, hazardous decomposition products should not be produced
- (g) **Hazardous Polymerization:** Will not occur.

## SECTION 11: TOXICOLOGICAL INFORMATION

- (a) **Information on likely routes of exposure:**
- **Inhalation:** No known significant effects or critical hazards
  - **Accidental Ingestion:** Ingestion of liquid and cause burns similar to frostbite
  - **Skin contact:** Dermal contact with rapidly evaporating liquid could result in freezing of the tissues or frostbite.
  - **Eye contact:** Liquid can cause burns similar to frostbite.
- (b) **Symptoms related to physical, chemical and toxicological characteristics:** Adverse symptoms may include the following: frostbite.
- (c) **Delayed and immediate effects and also chronic effects from short- and long-term exposure:** May cause genetic defects and cancer. Risk of cancer depends on duration and level of exposure.
- (d) **Numerical measures of toxicity:** This section includes a review of the toxicity of each component without considering the potential presence of 1,3-butadiene. However, the known hazards of this mutagenic and carcinogenic constituent have been integrated into the hazards identified in Section 2.0.

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Acute Toxicity (Oral)				
Chemical	Tested % Weight	Model	LD <sub>50</sub> Range	Reference
Butane				No data available
Isobutane				No data available
Pentane	100%	Rat	>2,000 mg/kg	ECHA, 2022
Propane				No data available

Acute Toxicity (Dermal)				
Chemical	Tested % Weight	Model	LD <sub>50</sub> Range	Reference
Butane				No data available
Isobutane				No data available
Pentane				No data available
Propane				No data available

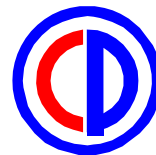
Acute Toxicity (Inhalation)				
Chemical	Tested % Weight	Model	LD <sub>50</sub> Range	Reference
Butane	100	Rat	>20,000 ppm	NIOSH, 2015
Isobutane	100	Rat	>20,000 ppm	ECHA, 2023
Pentane	100	Rat	>20,000 ppm	ECHA, 2022
Propane	100	Rat	>20,000 ppm	NIOSH, 2019

Skin Damage/Irritation			
Chemical	Model	Symptom	Reference
Butane			No data available
Isobutane			No data available
Pentane	Rabbit	Mild irritation following exposure to 0.5mL for 4 hours	ECHA, 2022
Propane			No data available

Eye Damage/Irritation			
Chemical	Model	Symptom	Reference
Butane			No data available
Isobutane			No data available
Pentane	Rabbit	Not Irritating	ECHA, 2022
Propane			No data available

Respiratory Sensitization	
No data available	

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Germ Cell Mutagenicity		
Chemical	Test/Result	Reference
Butane <sup>1</sup>	Results of in vitro tests were predominantly negative; No in vivo test information was available	ECHA, 2010
Isobutane <sup>1</sup>	Results of in vitro tests were predominantly negative; No in vivo test information was available	ECHA, 2010
Pentane	Results of in vitro and in vivo tests were predominantly negative	ECHA, 2022
Propane	Results of in vitro tests were predominantly negative; No in vivo test information was available	ECHA, 2010

<sup>1</sup> May contain  $\geq 0.1\%$  1,3-butadiene (203-450-8), a mutagenic compound

Carcinogenicity				
Compound	ACGIH	IARC	NTP	OSHA
Butane <sup>1</sup>	Not Classified	Not Classified	Not Listed	Not Classified
Isobutane <sup>1</sup>	Not Classified	Not Classified	Not Listed	Not Classified
Pentane	Not Classified	Not Classified	Not Listed	Not Classified
Propane	Not Classified	Not Classified	Not Listed	Not Classified

<sup>1</sup> May contain  $\geq 0.1\%$  1,3-butadiene (203-450-8), a carcinogenic compound

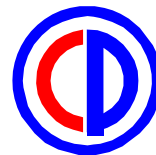
Reproductive Toxicity		
Chemical	Test/Result	Reference
Butane	Experimentally derived NOAEC for rat pup endpoints was 9,000 ppm	ECHA, 2010
Isobutane	Experimentally derived NOAEC for rat pup endpoints was 9,000 ppm	ECHA, 2010
Pentane	No data available; read across studies from structural analogues indicates no classification is warranted	ECHA, 2022
Propane	Experimentally derived NOAEC for rat pup endpoints was 12,000 ppm	ECHA, 2010

Specific Target Organ (STOT) – Single Exposure
No data sufficient for classification

Specific Target Organ (STOT) – Repeated Exposure
No data sufficient for classification

Aspiration Hazard
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Chemical	Assessment
Butane	The aspiration hazard of this hydrocarbon can be presumed based on a calculated kinematic viscosity $\leq 20.5 \text{ mm}^2/\text{s}$
Isobutane	The aspiration hazard of this hydrocarbon can be presumed based on a calculated kinematic viscosity $\leq 20.5 \text{ mm}^2/\text{s}$
Pentane	The aspiration hazard of this hydrocarbon can be presumed based on a calculated kinematic viscosity $\leq 20.5 \text{ mm}^2/\text{s}$
Propane	The aspiration hazard of this hydrocarbon can be presumed based on a calculated kinematic viscosity $\leq 20.5 \text{ mm}^2/\text{s}$

## SECTION 12: ECOLOGICAL INFORMATION

This product has no known adverse ecological effects.

- (a) **Ecotoxicity:** There is no data available
- (b) **Persistence and degradability:** There is no data available
- (c) **Bioaccumulative potential:** The octanol water coefficient (Log  $K_{ow}$ ) values for the hydrocarbon components of this material range from less than 2 to greater than 3, and therefore would be regarded as having low potential to bioaccumulate.
- (d) **Mobility in soil:** Not available.
- (e) **Other adverse effects:** No known significant effects or critical hazards

## SECTION 13: DISPOSAL CONSIDERATIONS

**Description of waste residues and safe handling:** It is the responsibility of the user to determine if disposal material is hazardous according to federal, state and local regulations. Dispose of waste in accordance with the federal, state, and local laws and regulations. This material may be considered a RCRA hazardous waste under 40 CFR 261-271 due to its ignitability. The product can be an ignitable hazardous waste. It is recommended that this product, in any form, be incinerated in suitable combustion chamber for disposal. If possible, use a flare.

**Methods of disposal:** The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Empty pressure vessels should be returned to the supplier. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

## SECTION 14: TRANSPORT INFORMATION

# SAFETY DATA SHEET



## Butane

Revision Date: 09/29/2023

- (a) UN number: UN1011
- (b) UN proper shipping name: BUTANE (Butane, Isobutane)
- (c) Transport Hazard classes: 2.1
- (d) Packing group: --
- (e) Environmental hazards: No
- (f) Transport in bulk
  - i. IBC Code – No applicable information
  - ii. Annex II of MARPOL 73/78 - No applicable information
- (g) Special precautions: **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

### SECTION 15: REGULATORY INFORMATION

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

#### U.S. Federal regulations:

- TSCA 8(a) PAIR:** Pentane
- TSCA 8(a) IUR Exempt/Partial exemption:** Not determined
- United States inventory (TSCA 8b):** All components are listed or exempted
- Clean Air Act (CAA) 112 regulated flammable substances:** Butane; Isobutane; Pentane
- Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs):** Not listed
- Clean Air Act Section 602 Class I Substances:** Not listed
- Clean Air Act Section 602 Class II Substances:** Not listed
- DEA List I Chemicals (Precursor Chemicals):** Not listed
- DEA List II Chemicals (Essential Chemicals):** Not listed
- SARA 302/304/:** No products were found
- SARA 304 emergency planning and notification:** Not applicable
- SARA 311/312 hazard identification:** Fire hazard; sudden release of pressure; Delayed (chronic) health hazard

#### Composition/information on ingredients

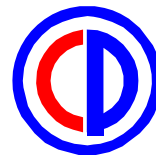
Name	%	Fire Hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Butane <sup>1</sup>	95-100	Yes	Yes	No	No	Yes
Isobutane <sup>1</sup>	0.1-4	Yes	Yes	No	No	Yes
Pentane	0.1-2	Yes	No	No	No	No
Propane	0.1-1	Yes	Yes	No	No	No

<sup>1</sup> May contain ≥ 0.1% 1,3-butadiene (203-450-8)

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently distributed.

#### State regulations

# SAFETY DATA SHEET



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<b>Massachusetts:</b>	The following components are listed: Butane, Isobutane, Pentane
<b>New York</b>	None of the components are listed
<b>New Jersey</b>	The following components are listed: Butane , Isobutane, Pentane
<b>Pennsylvania</b>	The following components are listed: Butane , Isobutane, Pentane

**California Proposition 65:** No products were found

### SECTION 16: OTHER INFORMATION

**Date of Preparation or Last Change:** 9/29/2023

#### Abbreviations and acronyms:

**N/C** – Not Classified – No concern based on consideration of the sum of available data.

**N/D** – Not Determined

**N/A** – Not Applicable or Not Available

**N/R** – Not Regulated

**CAS** – Chemical Abstract Service

**EC** – European Community

**STOT** – Specific Target Organ Toxicity

**OSHA** – US Occupational Safety and Health Organization

**PEL** – OSHA Permissible Exposure Limits

**ACGIH** – American Conference of Governmental Industrial Hygienists

**TLV** – ACGIH® Threshold Limit Values

**REL** – Recommended Exposure Limits

**IDLH** – Immediately Dangerous to Life or Health

**TWA** – Time Weighted Average – Average exposure over a specified period of time (i.e., 8 hours)

**STEL** - a 15-minute TWA exposure that should not be exceeded at any time during a work day.

**Ceiling** – Exposure limit which shall at no time be exceeded during the work day.

**NE** – None Established

**APF** – Assigned Protection Factor – the level of respiratory protection that a respirator is expected to provide.

**UEL** – Upper Explosive Limit – Highest concentration (percentage) of a gas or vapor in air capable of producing a flash fire in the presence of an ignition source

**LEL** – Lower Explosive Limit – Lowest concentration (percentage) of a gas or vapor in air capable of producing a flash fire in the presence of an ignition source.

**UFL** – Upper Flammability Limit - Maximum concentration of vapor in air above which propagation of a flame will not occur in the presence of an ignition source.

**LFL** – Lowest concentration at which a flammable mixture of gas or vapor in air can ignite at a given temperature and pressure.

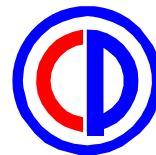
**IARC** – International Agency for Research on Cancer

**NTP** – National Toxicology Program

**NIOSH**- National Institute for Occupational Safety and Health

**NOAA** – National Oceanic and Atmospheric Administration

# ***SAFETY DATA SHEET***



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**GHS** - Globally Harmonized System of Classification and Labeling of Chemicals

**RTECS** – Registry of Toxic Effects of Chemical Substances

**HSDB** – Hazardous Substances Data Bank

**Disclaimer:**

The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions