

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture
Product Name: Normal Butane
Synonyms: Butane

1.2. Intended Use of the Product

Use of the Substance/Mixture: For professional use only.

1.3. Name, Address, and Telephone of the Responsible Party

Company

Southcross Energy
2103 Citywest Blvd., STE 900
Houston, TX 77042
T (713) 580-0265

1.4. Emergency Telephone Number

Emergency Number : 877-880-9022
1-800-424-9300
CHEMTREC

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

GHS-US classification

Simple Asphy H380
Flam. Gas 1 H220
Liquefied gas H280
Full text of H-phrases: see section 16

2.2. Label Elements

GHS-US Labeling

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.
H380 - May displace oxygen and cause rapid suffocation.

Precautionary Statements (GHS-US)

: P210 - Keep away from heat, sparks, open flames, hot surfaces. - 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

Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions. Thermal decomposition generates toxic vapors. Contact with the product may cause cold burns or frostbite. Continued exposure to odorized gas may reduce or eliminate ability to smell the odorant. People with impaired ability to detect odor due to colds, allergies, injuries, etc, must be especially cautious. Odor must not be used exclusively as a safety measure. Proper respiratory protection and fire/explosion precautions should be utilized when odor is first detected.

2.4. Unknown Acute Toxicity (GHS-US)

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Not applicable

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3.2. Mixture

Name	Product Identifier	%	GHS-US classification
Butane	(CAS No) 106-97-8	90 - 100	Simple Asphy, H380 Flam. Gas 1, H220 Compressed gas, H280
Isobutane	(CAS No) 75-28-5	1 - 5	Simple Asphy, H380 Flam. Gas 1, H220 Liquefied gas, H280
Pentane	(CAS No) 109-66-0	< 1	Flam. Liq. 1, H224 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 2, H411

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of First Aid Measures

First-aid Measures General: Never give anything by mouth to an unconscious person. If frostbite or freezing occurs, immediately flush with plenty of lukewarm water to GENTLY warm the affected area. Do not use hot water. Do not rub affected area. Get immediate medical attention. If exposed or concerned: Get medical advice/attention.

First-aid Measures After Inhalation: When symptoms occur: go into open air and ventilate suspected area. If exposed or concerned: Get medical advice/attention.

First-aid Measures After Skin Contact: Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Thaw frosted parts with lukewarm water. Do not rub affected area. Obtain medical attention if irritation persists.

First-aid Measures After Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If frostbite or freezing occurs, immediately flush with plenty of lukewarm water to GENTLY warm the affected area. Do not use hot water. Do not rub affected area. Get immediate medical attention. Obtain medical attention if irritation develops or persists.

First-aid Measures After Ingestion: Rinse mouth. Do NOT induce vomiting. Seek medical attention immediately.

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

Symptoms/Injuries: Gas can be toxic as a simple asphyxiant by displacing oxygen from the air. May cause frostbite on contact with the liquid.

Symptoms/Injuries After Inhalation: Gas can be toxic as a simple asphyxiant by displacing oxygen from the air. High concentrations may cause central nervous system depression such as dizziness, vomiting, numbness, drowsiness, headache, and similar narcotic symptoms. Respiratory tract irritation.

Symptoms/Injuries After Skin Contact: May cause mild skin irritation. Contact with the liquid may cause cold burns/frostbite.

Symptoms/Injuries After Eye Contact: May cause eye irritation. Contact with the liquefied gas causes frostbite.

Symptoms/Injuries After Ingestion: Not expected to be a primary route of exposure. Contact with the liquid causes frostbite.

Chronic Symptoms: In elevated concentrations may cause asphyxiation, central nervous system effects, and increased breathing rate. Symptoms of asphyxiation include headache, dizziness, rapid breathing, increased pulse, mood changes, tremors, cyanosis, muscular weakness, narcosis, numbness of the extremities, unconsciousness and death.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Use extinguishing media appropriate for surrounding fire.

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Extremely flammable gas.

Explosion Hazard: May form flammable/explosive vapor-air mixture. Heating may cause an explosion. Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.

Reactivity: Hazardous reactions will not occur under normal conditions.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Leaking gas fire: Do not extinguish, unless leak can be stopped safely. In case of leaking gas fire, eliminate all ignition sources if safe to do so.

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Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Other Information: Do not allow run-off from fire fighting to enter drains or water courses. Use water spray to disperse vapors.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Use special care to avoid static electric charges. Eliminate every possible source of ignition. Keep away from extremely high or low temperatures, ignition sources, and incompatible materials. - No smoking. Ruptured cylinders may rocket. Do NOT breathe (dust, vapor, mist, gas). Avoid all contact with skin, eyes, or clothing.

6.1.1. For Non-emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Responders

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Ventilate area.

6.2. Environmental Precautions

Prevent entry to sewers and public waters.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: As an immediate precautionary measure, isolate spill or leak area in all directions. Remove ignition sources.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Stop the source of the release, if safe to do so. Consider the use of water spray to disperse vapors. Isolate the area until gas has dispersed. Ventilate and gas test area before entering. Eliminate all ignition sources. Contact competent authorities after a spill.

6.4. Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: Handle empty containers with care because residual vapors are flammable. Extremely flammable gas. Ruptured cylinders may rocket. Do not pressurize, cut, or weld containers. Do not expose to heat, or ignition sources as this could cause an explosion. When heated to decomposition, emits toxic fumes.

Precautions for Safe Handling: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, sparks, open flames, hot surfaces, ignition sources, incompatible materials. - No smoking.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Proper grounding procedures to avoid static electricity should be followed. Comply with applicable regulations.

Storage Conditions: Store in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep in fireproof place. Store locked up. Keep/Store away from direct sunlight, extremely high or low temperatures, ignition sources, incompatible materials.

Incompatible Products: Strong oxidizers.

7.3. Specific End Use(s)

For professional use only.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), or OSHA (PEL).

Butane (106-97-8)		
USA ACGIH	ACGIH STEL (ppm)	1000 ppm
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	1900 mg/m ³
USA NIOSH	NIOSH REL (TWA) (ppm)	800 ppm
Isobutane (75-28-5)		
USA ACGIH	ACGIH STEL (ppm)	1000 ppm
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	1900 mg/m ³
USA NIOSH	NIOSH REL (TWA) (ppm)	800 ppm
Pentane (109-66-0)		
USA ACGIH	ACGIH TWA (ppm)	1000 ppm
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	350 mg/m ³

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USA NIOSH	NIOSH REL (TWA) (ppm)	120 ppm
USA NIOSH	NIOSH REL (ceiling) (mg/m ³)	1800 mg/m ³
USA NIOSH	NIOSH REL (ceiling) (ppm)	610 ppm
USA IDLH	US IDLH (ppm)	1500 ppm (10% LEL)
USA OSHA	OSHA PEL (TWA) (mg/m ³)	2950 mg/m ³
USA OSHA	OSHA PEL (TWA) (ppm)	1000 ppm

8.2. Exposure Controls

Appropriate Engineering Controls

: Gas detectors should be used when flammable gases/vapors may be released. Oxygen detectors should be used when asphyxiating gases may be released. Use explosion-proof equipment. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.

Personal Protective Equipment

: Protective clothing. Protective goggles. Gloves. Insufficient ventilation: wear respiratory protection.



Materials for Protective Clothing

: Chemically resistant materials and fabrics. Wear fire/flammable resistant/retardant clothing.

Hand Protection

: Wear chemically resistant protective gloves.

Eye Protection

: Chemical goggles or safety glasses.

Respiratory Protection

: Use a NIOSH-approved self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.

Thermal Hazard Protection

: Wear suitable protective clothing.

Other Information

: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State	: Gas
Appearance	: Clear.liquefied gas
Odor	: Mild
Odor Threshold	: No data available
pH	: No data available
Evaporation Rate	: No data available
Melting Point	: -138 °C (-216.4 °F)
Freezing Point	: No data available
Boiling Point	: -1 °C (30.2 °F)
Flash Point	: -73 °C (ASTM D-93) (-99.4 °F)
Auto-ignition Temperature	: 410 °C (770 °F)
Decomposition Temperature	: No data available
Flammability (solid, gas)	: Flammable gas
Vapor Pressure	: > 1000 mm Hg @20°C
Relative Vapor Density at 20 °C	: 1.6 (Air = 1)
Relative Density	: No data available
Specific Gravity	: 0.6 (Water = 1)
Solubility	: Water: Negligible
Partition Coefficient: N-Octanol/Water	: 1.1
Viscosity	: No data available
Lower Flammable Limit	: 2.0 %
Upper Flammable Limit	: 9.5 %

9.2. Other Information

VOC content : 100 %

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SECTION 10: STABILITY AND REACTIVITY

- 10.1. Reactivity:** Hazardous reactions will not occur under normal conditions.
- 10.2. Chemical Stability:** Stable under recommended handling and storage conditions (see section 7).
- 10.3. Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.
- 10.4. Conditions to Avoid:** Direct sunlight. Extremely high or low temperatures. Open flame. Overheating. Heat. Sparks. Ignition sources. Incompatible materials.
- 10.5. Incompatible Materials:** Strong oxidizers.
- 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	30957 mg/m ³ (Exposure time: 4 h)
ATE (Vapors)	30,957.00 mg/l/4h
ATE (Dust/Mist)	30,957.00 mg/l/4h
Isobutane (75-28-5)	
LC50 Inhalation Rat	658 mg/l/4h
LC50 Inhalation Rat	11000 ppm
ATE (Vapors)	658.00 mg/l/4h
ATE (Dust/Mist)	658.00 mg/l/4h
Pentane (109-66-0)	
LD50 Dermal Rabbit	3000 mg/kg
LC50 Inhalation Rat	364 g/m ³ (Exposure time: 4 h)
LC50 Inhalation Rat	> 20 mg/l/4h
ATE (Dermal)	3,000.00 mg/kg body weight
ATE (Vapors)	364.00 mg/l/4h
ATE (Dust/Mist)	364.00 mg/l/4h

Skin Corrosion/Irritation: Not classified

Serious Eye Damage/Irritation: Not classified

Respiratory or Skin Sensitization: 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: Gas can be toxic as a simple asphyxiant by displacing oxygen from the air. High concentrations may cause central nervous system depression such as dizziness, vomiting, numbness, drowsiness, headache, and similar narcotic symptoms. Respiratory tract irritation.

Symptoms/Injuries After Skin Contact: May cause mild skin irritation. Contact with the liquid may cause cold burns/frostbite.

Symptoms/Injuries After Eye Contact: May cause eye irritation. Contact with the liquefied gas causes frostbite.

Symptoms/Injuries After Ingestion: Not expected to be a primary route of exposure. Contact with the liquid causes frostbite.

Chronic Symptoms: In elevated concentrations may cause asphyxiation, central nervous system effects, and increased breathing rate. Symptoms of asphyxiation include headache, dizziness, rapid breathing, increased pulse, mood changes, tremors, cyanosis, muscular weakness, narcosis, numbness of the extremities, unconsciousness and death.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Pentane (109-66-0)	
LC50 Fish 1	9.87 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)
EC50 Daphnia 1	9.74 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC 50 Fish 2	11.59 mg/l (Exposure time: 96 h - Species: Pimephales promelas)

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12.2. Persistence and Degradability

Normal Butane	
Persistence and Degradability	Not established.

12.3. Bioaccumulative Potential

Normal Butane	
Bioaccumulative Potential	Not established.
Butane (106-97-8)	
Log Pow	2.89
Isobutane (75-28-5)	
BCF fish 1	1.57 - 1.97
Log Pow	2.88 (at 20 °C)
Pentane (109-66-0)	
Log Pow	3.39

12.4. Mobility in Soil

Normal Butane	
Mobility In Soil	Highly volatile. Will partition rapidly to air. In air, these hydrocarbons are photodegraded.

12.5. Other Adverse Effects

Other Information : Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, and international regulations.

Additional Information: Handle empty containers with care because residual vapors are flammable. Empty gas cylinders should be returned to the vendor for recycling or refilling.

SECTION 14: TRANSPORT INFORMATION

14.1. In Accordance with DOT

Proper Shipping Name : PETROLEUM GASES, LIQUEFIED
Hazard Class : 2.1
Identification Number : UN1075
Label Codes : 2.1
ERG Number : 115



14.2. In Accordance with IMDG

Proper Shipping Name : PETROLEUM GASES, LIQUEFIED
Hazard Class : 2.1
Identification Number : UN1075
Label Codes : 2.1
EmS-No. (Fire) : F-D
EmS-No. (Spillage) : S-U



14.3. In Accordance with IATA

Proper Shipping Name : PETROLEUM GASES, LIQUEFIED
Identification Number : UN1075
Hazard Class : 2
Label Codes : 2.1
Division : 2.1
ERG Code (IATA) : 10L



SECTION 15: REGULATORY INFORMATION

15.1 US Federal Regulations

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SARA Section 311/312 Hazard Classes	Sudden release of pressure hazard Immediate (acute) health hazard Fire hazard

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Butane (106-97-8)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Isobutane (75-28-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Pentane (109-66-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
EPA TSCA Regulatory Flag	T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA.

15.2 US State Regulations

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
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

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date	: 3/1/2021
Other Information	: This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

Aquatic Acute 2	Hazardous to the aquatic environment - Acute Hazard Category 2
Aquatic Chronic 2	Hazardous to the aquatic environment - Chronic Hazard Category 2
Asp. Tox. 1	Aspiration hazard Category 1
Compressed gas	Gases under pressure Compressed gas
Flam. Gas 1	Flammable gases Category 1
Flam. Liq. 1	Flammable liquids Category 1
Liquefied gas	Gases under pressure Liquefied gas
Simple Asphy	Simple Asphyxiant
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H220	Extremely flammable gas
H224	Extremely flammable liquid and vapor
H280	Contains gas under pressure; may explode if heated
H304	May be fatal if swallowed and enters airways
H336	May cause drowsiness or dizziness
H380	May displace oxygen and cause rapid suffocation
H401	Toxic to aquatic life
H411	Toxic to aquatic life with long lasting effects

NFPA Health Hazard

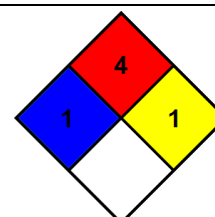
: 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.

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

: 1 - Normally stable, but can become unstable at elevated temperatures and pressures or may react with water with some release of energy, but not violently.



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This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

SDS US (GHS HazCom)