

Section 1: Product and Company Identification

Absolute Accuracy
4591 S Wayside Dr
Houston, TX 77087
(832) 571-2387

Product Code: 2783

Synonyms:
Recommended Use:
Usage Restrictions:

Section 2: Hazards Identification



Warning

Hazard Classification:

Gases Under Pressure

Hazard Statements:

Contains gas under pressure; may explode if heated

Precautionary Statements

Storage:

Protect from sunlight.
Store in well-ventilated place.

Section 3: Composition/Information on Ingredients

	CAS #	Concentration
N-Butane	106-97-8	ppm 5000
Helium	7440-59-7	balance

	Chemical Substance	Chemical Family	Trade Names
N-Butane	Butane	Hydrocarbons, Aliphatic, Saturated	N-BUTANE; LIQUIFIED PETROLEUM GAS; NORMAL BUTANE; BUTYL HYDRIDE; LPG; UN 1011; C4H10
Helium	HELIUM	Inorganic gases	HELIUM GAS; HELIUM COMPRESSED; HELIUM-4; ATOMIC HELIUM; UN 1046; He

Section 4: First Aid Measures

	Skin Contact	Eye Contact	Ingestion	Inhalation	Note to Physicians
N-Butane	If frostbite or freezing occur, immediately flush with plenty of lukewarm water (105-115 F; 41-46 C). DO NOT USE HOT WATER. If warm water is not available, gently wrap affected parts in blankets. Get immediate medical attention.	Contact with liquid: Immediately flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.	Not likely route of exposure.	If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.	For inhalation, consider oxygen.
Helium	Wash exposed skin with soap and water.	Flush eyes with plenty of water.	If a large amount is swallowed, get medical attention.	If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.	For inhalation, consider oxygen.

Section 5: Fire Fighting Measures

	Suitable Extinguishing Media	Products of Combustion	Protection of Firefighters
N-Butane	Carbon dioxide, regular dry chemical Large fires: Flood with fine water spray.	Carbon monoxide, carbon dioxide, water and toxic and irritating fumes.	<ul style="list-style-type: none"> ▪ Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply. ▪ Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply. ▪ NA ▪ NA
Helium	Non-flammable. Use suitable extinguishing media for surrounding fire.	Non-flammable	<ul style="list-style-type: none"> ▪ Non-flammable ▪ Non-flammable

Section 6: Accidental Release Measures

	Personal Precautions	Environmental Precautions	Methods for Containment
N-Butane	Keep unnecessary people away, isolate hazard area and deny entry. Ventilate closed spaces before entering. Do not touch spilled material.	Avoid heat, flames, sparks and other sources of ignition.	Stop leak if possible without personal risk. Reduce vapors with water spray. Remove sources of ignition.

	Personal Precautions	Environmental Precautions	Methods for Containment
Helium	Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas.	Avoid soil, waterways, drains and sewers	Stop leak if possible without personal risk.

	Methods for Cleanup	Other Information
N-Butane	Stop leak, evacuate area. Use protective equipment. Contact emergency personnel.	None
Helium	Stop leak, evacuate area. Contact emergency personnel.	None

Section 7: Handling and Storage

	Handling	Storage
N-Butane	Grounding and bonding required. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101. Keep separated from incompatible substances.	Store and handle in accordance with all current regulations and standards. Subject to storage regulations: U.S. OSHA 29 CFR 1910.110.
Helium	Store and handle in accordance with all current regulations and standards. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101.	Keep separated from incompatible substances.

Section 8: Exposure Controls/Personal Protection

	Exposure Guidelines
N-Butane	N-BUTANE: 800 ppm (1900 mg/m ³) OSHA TWA (vacated by 58 FR 35338, June 30, 1993) 800 ppm (1900 mg/m ³) NIOSH recommended TWA 10 hour(s) LIQUIFIED PETROLEUM GAS (LPG): 1000 ppm (1800 mg/m ³) OSHA TWA 1000 ppm (1800 mg/m ³) NIOSH recommended TWA 10 hour(s) ALIPHATIC HYDROCARBON GASES ALKANE (C1-C4): 1000 ppm ACGIH TWA
Helium	HELIUM: ACGIH (simple asphyxiant)

Engineering Controls

Handle only in fully enclosed systems.

	Eye Protection	Skin Protection	Respiratory Protection
N-Butane	For the gas: Eye protection not required, but recommended. For the liquid: Wear splash resistant safety goggles. Contact lenses should not be worn. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.	For the gas: Protective clothing is not required. For the liquid: Wear appropriate protective, cold insulating clothing.	Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply.
Helium	Eye protection not required, but recommended.	Protective clothing is not required.	Non-flammable

General Hygiene considerations

- Avoid breathing vapor or mist
- Avoid contact with eyes and skin
- Wash thoroughly after handling and before eating or drinking

Section 9: Physical and Chemical Properties

	Physical State	Appearance	Color	Change in Appearance	Physical Form	Odor	Taste
N-Butane	Gas	Colorless	Colorless	NA	Gas	Unpleasant odor	NA
Helium	Gas	Colorless	Colorless	N/A	Gas	Odorless	Tasteless

	Flash Point	Flammability	Partition Coefficient	Autoignition Temperature	Upper Explosive Limits	Lower Explosive Limits

	Boiling Point	Freezing Point	Vapor Pressure	Vapor Density	Specific Gravity	Water Solubility	pH	Odor Threshold	Evaporation Rate	Viscosity
N-Butane	30 F (-1 C)	-216 F (-138 C)	1557 mmHg @ 20 C	2.1 (Air=1)	0.5788 @ 0 C	0.15	NA	6.16 ppm	NA	NA
Helium	-452 F (-269 C)	-458 F (-272 C) @ 26 atm	1719 mmHg @ -268 C	0.138 (Air=1)	Not applicable	0.94% @ 0 C	Not applicable	Not available	Not applicable	0.02012 cP @ 26.8 C

	Molecular Weight	Molecular Formula	Density	Weight per Gallon	Volatility by Volume	Volatility	Solvent Solubility
N-Butane	58.12	C-H3-(C-H2)2-C-H3	NA	NA	100%	NA	Alcohol, ether, chloroform
Helium	4.0026	He	0.1785 g/L @ 0 C	Not available	100%	Not applicable	Insoluble: Not available

Section 10: Stability and Reactivity

	Stability	Conditions to Avoid	Incompatible Materials
N-Butane	Stable at normal temperatures and pressure.	Stable at normal temperatures and pressure.	Oxidizing materials, halogen compounds
Helium	Stable at normal temperatures and pressure.	Stable at normal temperatures and pressure.	No data available.

	Hazardous Decomposition Products	Possibility of Hazardous Reactions
N-Butane	Oxides of carbon.	Will not polymerize.
Helium	Miscellaneous decomposition products	Will not polymerize.

Section 11: Toxicology Information

Acute Effects

	Oral LD50	Dermal LD50	Inhalation
N-Butane	LC(50): 658 mg/l (270,000 ppm) butane (4 hour-rat)	Not established	Irritation, nausea, vomiting, headache, drowsiness, symptoms of drunkenness, tingling sensation, suffocation, convulsions, coma, can displace oxygen at high concentrations
Helium	Not available	Not available	Nausea, vomiting, difficulty breathing, irregular heartbeat, headache, fatigue, dizziness, disorientation, emotional disturbances, tingling sensation, loss of coordination, suffocation, convulsions, unconsciousness, coma

	Eye Irritation	Skin Irritation	Sensitization
N-Butane	Frostbite, blurred vision	Blisters, frostbite	Carcinogenicity, Category 1A; H350: May cause cancer. Germ cell mutagenicity, Category 1B; H340: May cause genetic defects.
Helium	Liquid: frostbite, blurred vision	Liquid: frostbite	Difficulty breathing

Chronic Effects

	Carcinogenicity	Mutagenicity	Reproductive Effects	Developmental Effects
N-Butane	None	Not established	Not established	No data
Helium	Not available	Not available	Not available	No data

Section 12: Ecological Information

Fate and Transport

	Eco toxicity	Persistence / Degradability	Bioaccumulation / Accumulation	Mobility in Environment
N-	Fish toxicity: NA	NA	NA	NA

Butane	Invertebrate toxicity: NA Algal toxicity: NA Phyto toxicity: NA Other toxicity: Expected to exist entirely in the vapor phase in ambient air.			
Helium	Fish toxicity: Not available Invertebrate toxicity: Not available Algal toxicity: Not available Phyto toxicity: Not available Other toxicity: Not available	Not available	Not available	Not available

Section 13: Disposal Considerations

N-Butane	Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D001.
Helium	Dispose in accordance with all applicable regulations.

Section 14: Transportation Information

U.S. DOT 49 CFR 172.101

DOT Information For This Mixture

Shipping Name	Compressed gas, n.o.s. (Helium, N-Butane)
UN Number	UN1956
Hazard Class	2.2
Hazard Information	Non-Flammable Gas

Individual Component Information

	Proper Shipping Name	ID Number	Hazard Class or Division	Packing Group	Labeling Requirements	Passenger Aircraft or Railcar Quantity Limitations	Cargo Aircraft Only Quantity Limitations	Additional Shipping Description
N-Butane	Butane	UN1011	2.1	Not applicable	2.1	Forbidden	150 kg	NA
Helium	Helium, compressed	UN1046	2.2	Not applicable	2.2	75 kg or L	150 kg	N/A

Canadian Transportation of Dangerous Goods

	Shipping Name	UN Number	Class	Packing Group / Risk Group
N-Butane	Butane	UN 1011	2.1	NA
Helium	Helium, compressed	UN1046	2.2	Not applicable

Section 15: Regulatory Information

U.S. Regulations

	CERCLA Sections	SARA 355.30	SARA 355.40
N-Butane	Not regulated.	Not regulated.	Not regulated.
Helium	Not regulated.	Not regulated.	Not regulated.

SARA 370.21

	Acute	Chronic	Fire	Reactive	Sudden Release
N-Butane	Yes	No	Yes	No	Yes
Helium	Yes	No	No	No	Yes

SARA 372.65

N-Butane	Not regulated.
Helium	Not regulated.

OSHA Process Safety

N-Butane	Not regulated.
Helium	Not regulated.

State Regulations

	CA Proposition 65
N-Butane	Not regulated.
Helium	Not regulated.

Canadian Regulations

	WHMIS Classification
N-Butane	A, B1
Helium	A

National Inventory Status

	US Inventory (TSCA)	TSCA 12b Export Notification	Canada Inventory (DSL/NDL)
N-Butane	Listed on inventory.	Not listed.	Listed on inventory.
Helium	Listed on inventory.	Not listed.	Not determined.

Section 16: Other Information

	NFPA Rating
N-Butane	HEALTH=1 FIRE=4 REACTIVITY=0
Helium	HEALTH=0 FIRE=0 REACTIVITY=0 SPECIAL=SA

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard