

Safety Data Sheet



Division of Fresno Oxygen

Barnes Welding Supply/Barnes Specialty Gases

Division of Fresno Oxygen

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Section 1: Product and Company Identification

Barnes Welding Supply / Barnes Specialty Gases - Division of Fresno Oxygen

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FOR CHEMICAL EMERGENCIES DURING TRANSPORTATION ONLY CALL INFOTRAC 1-800-535-5053

Product Name: PXG-Type Mixs

Synonyms:

Recommended Use:

Usage Restrictions:

Section 2: Hazards Identification



Danger

Hazard Classification:

Flammable (Category 1)
Gases Under Pressure

Hazard Statements:

Contains gas under pressure; may explode if heated
Extremely flammable gas

Precautionary Statements

Prevention:

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

Response:

Eliminate all ignition sources if safe to do so.

Leaking gas fire: Do not extinguish, unless leak can be stopped safely.

Storage:

Protect from sunlight.
Store in well-ventilated place.

Section 3: Composition/Information on Ingredients

	CAS #	Concentration
Butane (n-Butane)	106-97-8	0 – 100 %
Propane	74-98-6	0 – 100 %

	Chemical Substance	Chemical Family	Trade Names
Butane (n-Butane)	BUTANE	Hydrocarbons, Aliphatic, Saturated	N-BUTANE; LIQUEFIED PETROLEUM GAS; NORMAL BUTANE; BUTYL HYDRIDE; LPG; UN 1011; C4H10
Propane	PROPANE	Hydrocarbons, Aliphatic, Saturated	N-PROPANE; DIMETHYLMETHANE; PROPYL HYDRIDE; R-290; PROPYLHYDRIDE; LIQUEFIED PETROLEUM GAS; LPG; >96% NATURAL GRADE; >99.9% PURE GRADE; UN 1978; C3H8

Section 4: First Aid Measures

	Skin Contact	Eye Contact	Ingestion	Inhalation	Note to Physicians
Butane (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.
Propane	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.	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
Butane (n-Butane)	Carbon dioxide, regular dry chemical. Large fires: Flood with fine water spray.	Carbon monoxide, carbon dioxide, water and toxic and irritating fumes.	- 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.
Propane	Regular dry chemical, high expansion foam. Large fires: Flood with fine water spray.	Carbon monoxide, carbon dioxide, water and toxic and irritating fumes.	- Any self-contained breathing apparatus with a full facepiece. - Any self-contained breathing apparatus with a full facepiece.

Section 6: Accidental Release Measures

	Personal Precautions	Environmental Precautions	Methods for Containment
Butane (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.
Propane	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.

	Methods for Cleanup	Other Information
Butane (n-Butane)	Stop leak, evacuate area. Use protective equipment. Contact emergency personnel.	None
Propane	Contact emergency personnel	None

Section 7: Handling and Storage

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

Section 8: Exposure Controls/Personal Protection

	Exposure Guidelines
Butane (n-Butane)	N-BUTANE: 800 ppm (1900 mg/m3) OSHA TWA (vacated by 58 FR 35338, June 30, 1993) 800 ppm (1900 mg/m3) NIOSH recommended TWA 10 hour(s) LIQUIFIED PETROLEUM GAS (LPG): 1000 ppm (1800 mg/m3) OSHA TWA 1000 ppm (1800 mg/m3) NIOSH recommended TWA 10 hour(s) ALIPHATIC HYDROCARBON GASES ALKANE (C1-C4): 1000 ppm ACGIH TWA
Propane	PROPANE: 1000 ppm (1800 mg/m3) OSHA TWA 1000 ppm (1800 mg/m3) NIOSH recommended TWA 10 hour(s) LIQUIFIED PETROLEUM GAS (LPG): 1000 ppm (1800 mg/m3) OSHA TWA 1000 ppm ACGIH TWA 1000 ppm (1800 mg/m3) NIOSH recommended TWA 10 hour(s) ALIPHATIC HYDROCARBON GASES ALKANE (C1-C4): 1000 ppm ACGIH TWA

Engineering Controls

Handle only in fully enclosed systems.

	Eye Protection	Skin Protection	Respiratory Protection
Butane (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.
Propane	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 self-contained breathing apparatus with a full facepiece.

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
Butane (n-Butane)	Gas	Colorless	Colorless	N/A	Gas	Faint, petroleum-like odor	N/A
Propane	Gas	Clear	Colorless	N/A	Gas	Gasoline odor	N/A

	Flash Point	Flammability	Partition Coefficient	Autoignition Temperature	Upper Explosive Limits	Lower Explosive Limits
Butane (n-Butane)	-76 F (-60 C) (CC)	Not available	630.96 (log = 2.80) (estimated from water solubility)	549 F (287 C)	0.085	0.019
Propane	-157 F (-105 C)	Not available	Not available	842 F (450 C)	0.095	0.021

	Boiling Point	Freezing Point	Vapor Pressure	Vapor Density	Specific Gravity	Water Solubility	pH	Odor Threshold	Evaporation Rate	Viscosity
Butane (n-Butane)	30 F (-1 C)	-216 F (-138 C)	1557 mmHg @ 20 C	2.1 (Air=1)	0.5788 @ 0 C	0.15	Not applicable	6.16 ppm	Not applicable for gas. Liquefied n-butane will evaporate rapidly at room temperature	Not available
Propane	-40 F (-40 C)	-310 F (-190 C)	6398 mmHg @ 21.1 C	1.55 (Air=1)	0.5853 @ -45 C	Very slightly soluble	Not applicable	5000-20000 ppm	Not applicable	Not available

	Molecular Weight	Molecular Formula	Density	Weight per Gallon	Volatility by Volume	Volatility	Solvent Solubility
Butane (n-Butane)	58.12	C-H3-C-H2 2-C-H3	Not available	Not available	100%	Not applicable	Soluble: Alcohol, ether, chloroform
Propane	44.11	C-H3-C-H2-C-H3	0.116	Not available	Not available	Not applicable	Soluble: Absolute alcohol, ether, chloroform, benzene, turpentine

Section 10: Stability and Reactivity

	Stability	Conditions to Avoid	Incompatible Materials
Butane (n-Butane)	Stable at normal temperatures and pressure.	Stable at normal temperatures and pressure.	Oxidizing materials, halogen compounds
Propane	Stable at normal temperatures and pressure.	Stable at normal temperatures and pressure.	Oxidizing materials, combustible materials, halogen compounds.

	Hazardous Decomposition Products	Possibility of Hazardous Reactions
Butane (n-Butane)	Oxides of carbon.	Will not polymerize.
Propane	Oxides of carbon	Will not polymerize.

Section 11: Toxicology Information

Acute Effects

	Oral LD50	Dermal LD50	Inhalation
Butane (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
Propane	LC50 Inhalation Gas. Rat >800000 ppm 15 minutes	Not available	Central nervous system depression, difficulty breathing, nausea, vomiting, irregular heartbeat, headache, symptoms of drunkenness, disorientation, suffocation, convulsions, coma

	Eye Irritation	Skin Irritation	Sensitization
Butane (n-Butane)	Frostbite, blurred vision	Blisters, frostbite	Carcinogenicity, Category 1A; H350: May cause cancer (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard). Germ cell mutagenicity, Category 1B; H340: May cause genetic defects (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard).
Propane	Liquid: frostbite, blurred vision	Liquid: blisters, frostbite	No health hazards classified.

Chronic Effects

	Carcinogenicity	Mutagenicity	Reproductive Effects	Developmental Effects
Butane (n-Butane)	None	Not established	Not established	No data
Propane	Not available	Not available	Not available	No data

Section 12: Ecological Information

Fate and Transport

	Eco toxicity	Persistence / Degradability	Bioaccumulation / Accumulation	Mobility in Environment
Butane (n-Butane)	Fish toxicity: Not available Invertebrate toxicity: Not available Algal toxicity: Not available Phyto toxicity: Not available Other toxicity: Expected to exist entirely in the vapor phase in ambient air.	Not available	Not available	Not available
Propane	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

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

Section 14: Transportation Information

U.S. DOT 49 CFR 172.101

DOT Information For This Mixture

Shipping Name	Compressed gas, flammable, n.o.s. (Propane, Butane (n-Butane))
UN Number	UN1954
Hazard Class	2.1
Hazard Information	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
Butane (n-Butane)	Butane	UN1011	2.1	Not applicable	2.1	Forbidden	150 kg	N/A
Propane	Propane	UN1978	2.1	Not applicable	2.1	Forbidden	150 kg	N/A

Canadian Transportation of Dangerous Goods

	Shipping Name	UN Number	Class	Packing Group / Risk Group
Butane (n-Butane)	Butane	UN1011	2.1	Not applicable
Propane	Propane	UN1978	2.1	Not applicable

Section 15: Regulatory Information

U.S. Regulations

	CERCLA Sections	SARA 355.30	SARA 355.40
Butane (n-Butane)	Not regulated.	Not regulated.	Not regulated.
Propane	Not regulated.	Not regulated.	Not regulated.

SARA 370.21

	Acute	Chronic	Fire	Reactive	Sudden Release
Butane (n-Butane)	Yes	No	Yes	No	Yes
Propane	Yes	No	Yes	No	Yes

SARA 372.65

Butane (n-Butane)	Not regulated.
Propane	Not regulated.

OSHA Process Safety

Butane (n-Butane)	Not regulated.
Propane	Not regulated.

State Regulations

	CA Proposition 65
Butane (n-Butane)	Not regulated.
Propane	Not regulated.

Canadian Regulations

	WHMIS Classification
Butane (n-Butane)	A, B1
Propane	A, B1

National Inventory Status

	US Inventory (TSCA)	TSCA 12b Export Notification	Canada Inventory (DSL/NDSL)
Butane (n-Butane)	Listed on inventory.	Not listed.	Listed on inventory.
Propane	Listed on inventory.	Not listed.	Listed on inventory.

Section 16: Other Information

	NFPA Rating
Butane (n-Butane)	HEALTH=1 FIRE=4 REACTIVITY=0
Propane	HEALTH=2 FIRE=4 REACTIVITY=0

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