


SDS Preparation Date: 10/20/2022

Revision: 1

SECTION 1: IDENTIFICATION

Product Identifier	n-Butane
Trade name	Puretane
Details of the supplier of the Safety Data Sheet Manufacturer/Supplier:	Puretane Butane 2323 32 nd Ave NE, Suite 260 Calgary, AB T2E 6Z3 Telephone: 310.622.9415 
Recommended use of the chemical and restrictions on use	<i>Fuel for cigarette lighters and portable stoves, a propellant in aerosols, a heating fuel, a refrigerant, and in the manufacture of a wide range of products.</i> Recommended restrictions: Keep out of reach of children
Chemical family	Hydrocarbon
Emergency telephone number:	PERS: North America 1-800-633-8253; International: +1-801-629-0667 Contract number: 8027

SECTION 2: HAZARDS IDENTIFICATION**Classification of the chemical**

This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and WHMIS 2015.

Classification:

Flammable gas, Category 1

Label elements*Hazard pictogram(s)***Signal Word**

Danger

Hazard statement(s)

Extremely flammable gas.

Precautionary statement(s)

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

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

Eliminate all ignition sources if safe to do so.

Protect from sunlight. Store in a well-ventilated place.

Dispose of contents/container in accordance with local regulations.

Other hazards

Vapors are heavier than air and can cause suffocation by reducing available oxygen.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance

Chemical Name	Synonym	CASNo	Concentration (%)
n-Butane	Butane	106-97-8	99.9%

SECTION 4: FIRST AID MEASURES**Description of first aid measures****Ingestion:**

None required under normal conditions. Ingestion is not expected based on the type of product.

Inhalation:

If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a Poison Center/Doctor if you feel unwell.

Skin contact:

Wash affected areas with soap and water. Seek medical attention if symptoms develop or persist. If frostbite has occurred, thaw with lukewarm water. Seek medical assistance.

Eye contact:

Immediately flush eyes with running water for at least 15 minutes. If irritation persists, get medical attention.

Most important symptoms and effects, both acute and delayed

May cause drowsiness or dizziness if inhaled. Direct eye or skin contact may cause frostbite. Symptoms of frostbite may include numbness, prickling and itching.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: FIRE FIGHTING MEASURES

Extinguishing media**Suitable extinguishing media**

Dry chemical powder and high-expansion foam.

Unsuitable extinguishing media

Carbon dioxide, low expansion foams, and direct application of water on liquefied *n*-butane gas.

Special hazards arising from the substance or mixture / Conditions of flammability

Extremely flammable gas. Gas is heavier than air and may spread long distances and will accumulate at low points (e.g. open or closed drain). Distant ignition and flashback are possible.

Flammability classification (OSHA 29 CFR 1910.106)

Flammable gas

Hazardous combustion products

Carbon oxides.

Special protective equipment and precautions for firefighters*Protective equipment for fire-fighters*

Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures

In case of fire: Evacuate area. Stop the flow of gas before attempting to extinguish the fire. Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Cool fire-exposed cylinders, tanks, equipment or pipelines by applying hose streams, to minimize the risk of rupture. Cooling should begin as soon as possible (within several minutes) and should concentrate on any unwetted portions of the container. Apply water from the side and a safe distance.

SECTION 6: ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Restrict access to area until completion of clean-up. Ensure clean-up is conducted by trained personnel only. All persons dealing with clean-up should wear the appropriate protective equipment including self-contained breathing apparatus. Remove or isolate flammable and combustible materials. Refer to Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION, for additional information on acceptable personal protective equipment.

Environmental precautions

Ensure spilled product does not enter drains, sewers, waterways, or confined spaces.

Methods and material for containment and cleaning up

Stop or reduce leak if safe to do so. Allow gas to dissipate.

Special spill response procedures

If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8802).

US CERCLA Reportable quantity (RQ): None reportable.

SECTION 7: HANDLING AND STORAGE**Precautions for safe handling:**

Before handling, it is very important that engineering controls are operating and that protective equipment requirements and personal hygiene measures are being followed. People working with this chemical should be properly trained regarding its hazards and its safe use. Maintenance and emergency personnel should be advised of potential hazards. Immediately report leaks, spills or ventilation failures. Do not use with incompatible materials such as combustible materials. Follow the manufacture/supplier's advice on maximum and minimum temperatures for handling areas. Avoid contact with materials which can burn. Eliminate all ignition sources. Post "NO SMOKING" signs in area. Avoid breathing gas.

Conditions for safe storage: Store in a cool, dry, well ventilated area, away from incompatibles. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. No smoking in the area.

Incompatible materials: Oxidizing materials.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Chemical Name	Exposure Limits				
	ACGIH		OSHA		
	TWA	STEL	PEL	STEL	
N-Butane	N/Av	1000 ppm	800 ppm	N/Av	

Exposure controls**Ventilation and engineering measures**

Use only in well-ventilated areas. Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits.

Respiratory protection: Respiratory protection is required if the concentrations exceed the TLV. NIOSH-approved respirators are recommended. A self-contained breathing apparatus should be used in emergency situations or instances where exposure levels are not known. Seek advice from respiratory protection specialists. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02.

Skin protection: Wear protective gloves/clothing. Advice should be sought from glove suppliers.

Eye / face protection: Wear safety goggles or glasses as appropriate for the job.

Other protective equipment: An eyewash station and safety shower should be made available in the immediate working area. Other equipment may be required depending on workplace standards.

General hygiene considerations: Avoid contact with skin, eyes and clothing. Do not eat, drink, smoke or use cosmetics while working with this product. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Gas

Odor: Odorless

Odor threshold: Not available.

pH: Not applicable.

Melting/Freezing point: -138.2 °C

Initial boiling point and boiling range: -0.5 °C

Flash point: Not applicable

Flashpoint (Method): Not applicable

Evaporation rate (BuAe = 1): Not applicable.

Flammability (solid, gas): Extremely flammable gas

Lower flammable limit (% by vol.): Not applicable.

Upper flammable limit (% by vol.): Not applicable.

Oxidizing properties: None

Explosive properties: Not explosive.

Vapor pressure: 1614 mmHg

Vapor density: 2.00 (air=1)

Relative density / Specific gravity: Not applicable.

Solubility in water: Insoluble.

Other solubility: Not available.

Partition coefficient: n-octanol/water or Coefficient of water/oil distribution: 2.89

Auto-ignition temperature: Not available.

Decomposition temperature: Not available.

Viscosity: Not applicable.

Other physical/chemical comments: Critical temperature: 152 °C

SECTION 10: STABILITY AND REACTIVITY

Reactivity: Not normally reactive.

Chemical stability: Material is stable under normal conditions.

Possibility of hazardous reactions: Hazardous polymerization does not occur.

Conditions to avoid: Incompatible materials, high temperatures, sunlight, electric discharge, welding.

Incompatible materials: Oxidizers

Hazardous decomposition products: None known, refer to hazardous combustion products in Section 5.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Routes of entry inhalation: Yes

Routes of entry skin & eye: Yes

Routes of entry Ingestion: No

Routes of exposure skin absorption: No

Potential Health Effects:

Signs and symptoms of short-term (acute) exposure:

Sign and symptoms Inhalation

May cause drowsiness or dizziness. Symptoms may include lightheadedness, feeling of fainting, dizziness and weakness.

Sign and symptoms ingestion

None expected under normal conditions.

Sign and symptoms skin

Direct contact may cause frostbite. Symptoms of frostbite may include numbness, prickling and itching.

Sign and symptoms eyes

Direct contact may cause frostbite. Symptoms of frostbite may include numbness, prickling and itching.

Potential Chronic Health Effects:

Mutagenicity: Not expected to be mutagenic in humans.

Carcinogenicity: No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.

Reproductive effects & Teratogenicity: Not expected to have other reproductive effects.

Sensitization to material: Not expected to cause skin or respiratory sensitization.

Specific target organ effects: Not classified.

Medical conditions aggravated by overexposure: Pre-existing skin, eye and respiratory disorders.

Synergistic materials: Not available.

Other important toxicological hazards: None known or reported by the manufacturer.

Toxicological data: No data is available on the product itself. ATE oral = >5000 mg/kg.

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
N-Butane	202000 ppm	N/Av	N/Av

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity

Not expected to be harmful to aquatic organisms. Do not release, unmonitored, into the environment.

Ecotoxicity data:

Ingredients	CASNo	Toxicity to Fish		
		LC50	NOEC	M Factor
N-Butane	106-97-8	N/Av	N/Av	None

Ingredients	CASNo	Toxicity to Daphnia		
		EC50	NOEC	M Factor
N-Butane	106-97-8	N/Av	N/Av	None

Ingredients	CASNo	Toxicity to Algae		
		EC50	NOEC	M Factor
N-Butane	106-97-8	N/Av	N/Av	None

Persistence and degradability: No data is available on the product itself.

Bioaccumulation potential: No data is available on the product itself.

Ingredient	Partition coefficient n-octanol/water (log Kow)	Bioconcentration factor (BCF)
N-Butane	2.89	N/A

SECTION 13: DISPOSAL CONSIDERATIONS

Handling for Disposal: Handle waste according to recommendations in Section 7. Empty containers contain residue and are considered dangerous.

Methods of Disposal: Dispose in accordance with all applicable federal, state, provincial and local regulations.

RCRA: If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

SECTION 14: TRANSPORT INFORMATION

Regulation	UN Number	Proper Shipping name	Hazard class	PG
49CFR	UN1011	Butane	2.1	None
IATA	UN1011	Butane	2.1	None
IMDG	UN1011	Butane	2.1	None
TDG	UN1011	Butane	2.1	None

SECTION 15: REGULATORY INFORMATION

US Federal Information: Components listed below are present on the following U.S. Federal chemical lists:

Ingredients	CASNo	TSCA	RQ	SARA 302	SARA 313	De Minimis
N-Butane	106-97-8	Yes	None	None	No	N/Av

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: Flammable gas.

US State Right to Know Laws:

Ingredients	CASNo	California Prop 65		State "Right to know" lists					
		Listed	Type of toxicity	CA	MA	MN	NJ	PA	RI
N-Butane	106-97-8	Yes	Developmental	Yes	Yes	Yes	Yes	Yes	Yes

International Information: Components listed below are present on the following International Inventory list:

Ingredients	CASNo	EINECS	Canada	Australia	Philippines	Japan	Korea	China	New Zealand
N-Butane	106-97-8	203-448-7	Present	Present	Present	Present	Present	Present	Present

SECTION 16: OTHER INFORMATION

Legend	<p>CAS: Chemical Abstract Services CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980 DOT: Department of Transportation EPA: Environmental Protection Agency IARC: International Agency for Research on Cancer IATA: International Air Transport Association IMDG: International Maritime Dangerous Goods LC/LD: Lethal Concentration/Lethal Dose N/Ap: Not Applicable/N/Av: Not Applicable NTP: National Toxicology Program OSHA: Occupational Safety and Health Administration PEL: Permissible exposure limit RCRA: Resource Conservation and Recovery Act SARA: Superfund Amendments and Reauthorization Act STEL: Short Term Exposure Limit TLV: Threshold Limit Values TWA: Time Weighted Average</p>
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References Safety Data Sheets from manufacturer/Technical Sheet from manufacturer

Preparation Date (mm/dd/yyyy): 10/20/2022

Other special considerations for handling: Provide adequate information, instruction and training for operators.

DISCLAIMER

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