

# MATERIAL SAFETY DATA SHEET

## HOLLOWICK BUTANE FUEL

### SECTION 1 — PRODUCT IDENTIFICATION

**Product identifier:** Hollowick Butane Fuel

**Product use:** Butane fuel for use in commercial portable butane gas stoves.

**Manufacturer/Supplier name and address:**

HOLLOWICK INC

100 FAIRGROUNDS DRIVE

MANLIUS NY 13104

(800) 367-3015 or (315) 682-2163

**Emergency Telephone #:** Your local Poison Control Center, or CHEMTREC 1-800-424-9300 day or night. Outside the continental United States, call CHEMTREC at 1-703-527-3887 (collect calls accepted)

### SECTION 2 — CHEMICAL COMPOSITION/HAZARDOUS INGREDIENTS

<u>Ingredients</u>	<u>CAS #</u>	<u>% (weight)</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>
n-Butane	106-97-8	68.59	n/av	800 ppm TWA
Isobutane	75-28-5	29.38	n/av	n/av
Propane	74-98-6	1.48	n/av	2500 ppm TWA
Nitrogen	7727-37-9	0.55	n/av	n/av

### SECTION 3 — HAZARDS IDENTIFICATION

\*\*\*POTENTIAL HEALTH EFFECTS\*\*\*

**Target organs:** Respiratory system.

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

*Inhalation:* Harmful if inhaled. The main ingredient (n-Butane) can cause depression of the central nervous system with symptoms such as headache, nausea, dizziness, drowsiness and confusion, based on animal and human information.

*Skin contact:* Contact with liquefied gas escaping from its cylinder may cause frostbite. Symptoms of mild frostbite include numbness, prickling and itching in the affected area. Symptoms of more severe frostbite include a burning sensation and stiffness of the affected area. The skin may become waxy white or yellow. Blistering, tissue death and gangrene may also develop in severe cases.

*Eye contact:* Contact with liquefied gas escaping from its cylinder may cause freezing of the eye. Permanent eye damage or blindness could result.

*Ingestion:* Ingestion is not an applicable route of exposure for gases.

**Effects of long-term (chronic) exposure:** There is no specific information available regarding potential long-term effects of exposure to butanes.

**Other important hazards:** None.

#### SECTION 4 — FIRST AID MEASURES

**Inhalation:** Remove victim to fresh air. If breathing is difficult oxygen may be beneficial if administered by trained personnel. If breathing has stopped, perform an artificial respiration. Call physician immediately.

**Skin contact:** Immediately remove victim from source of contamination and briefly flush with lukewarm, gently flowing water, until the chemical is removed. DO NOT attempt to re-warm the affected area on site. DO NOT rub area or apply dry heat. Gently remove clothing or jewellery that may restrict circulation. Quickly transport victim to an emergency care facility.

**Eye contact:** Immediately remove victim from source of contamination and briefly flush with lukewarm, gently flowing water, until the chemical is removed. DO NOT attempt to re-warm. Cover both eyes with a sterile dressing. . Quickly transport victim to an emergency care facility.

**Ingestion:** Ingestion is not an applicable route of exposure for gases.

#### SECTION 5 — FIRE FIGHTING MEASURES

**Fire hazards/conditions of flammability:** Extremely flammable. Can readily form explosive mixtures with air. Gas is heavier than air and may travel a considerable distance to a source of ignition and flash back to a leak or open container. Can accumulate in confined spaces, resulting in explosion. Heat from a fire may cause a rapid build-up pressure inside cylinders, which may cause explosive rupture.

**Flash point (Method):** approx. -82 to -74 °C (-117 to -101°F)

**Lower flammable limit (% by volume):** 1.8

**Upper flammable limit (% by volume):** 8.4

**Explosion data:**

*Sensitivity to mechanical impact:* Not sensitive. Stable material.

*Sensitivity to static discharge:* Can accumulate electrostatic charge by flow or agitation due to its low electrical conductivity. In its flammable range can be ignited readily by an electrostatic discharge of sufficient energy.

**Oxidizing properties:** None.

**Auto-ignition temperature:** n-Butane 287°C (550°F) Isobutane 462°C (864°F)

**Suitable extinguishing media:** Dry chemical powder, carbon dioxide, alcohol foam, water spray or fog. Water may be ineffective because it will not cool the product below its flash point.

**Special fire-fighting procedures/equipment:** Evacuate area and fight fire from a safe distance or protected location. Approach fire from upwind. If possible, stop the flow of gas before trying to extinguish the fire.

**Hazardous combustion products:** Carbon dioxide and possibly carbon monoxide.

#### SECTION 6 — ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Restrict access to area until completion of cleanup. Ensure cleanup is conducted by trained personnel only. Provide adequate personal protective equipment. Eliminate all ignition sources. Ventilate area.

**Spill response/Cleanup:** Do not touch spilled liquid. Prevent material from entering confined spaces. Stop or reduce leak if you can do it without risk. Use water to reduce vapours. Isolate area until gas has dispersed.

#### SECTION 7 — HANDLING AND STORAGE

**Safe handling procedures:** This material is a flammable gas. Eliminate all ignition sources. Keep away from heat. Use smallest, practical cylinder size in a well ventilated area.

**Storage requirements:** Store away from all heat and ignition sources.

**Incompatible materials:** Strong oxidizing materials.

## SECTION 8 — EXPOSURE CONTROLS AND PERSONAL PROTECTION

**Ventilation and engineering controls:** Use in a place with good general ventilation. In some cases a local exhaust ventilation may be necessary.

**Respiratory protection:** None required under normal conditions of use.

**Protective gloves:** As required by workplace standards.

**Eye protection:** As required by workplace standards.

**Other protective equipment:** As required by workplace standards.

**Permissible exposure levels:** Refer to Section 2.

## SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

**Physical form, color and odor:** Pressurized liquid. Colorless. Peppery smell with mercaptan added (Mixing rate 1,000:1)

**Odor threshold:** n/av

**pH:** n/ap

**Boiling point:** -2.5°C

**Melting/freezing point:** n/av

**Vapour pressure:** 3.3 kg/cm<sup>2</sup> (at 35°C, 1 ATM)

**Solubility in water:** Not soluble.

**Coefficient of oil/water distribution:** n/av

**Specific gravity or relative density (water = 1):** 0.574

**Vapour density:** 1.975 (Air=1)

**Volatile organic compounds (VOC's):** n/av

**Evaporation rate:** n/av

## SECTION 10 — REACTIVITY AND STABILITY DATA

**Stability and reactivity:** Stable. Hazardous polymerization will not occur.

**Conditions to avoid:** Static charge, sparks, open flames or other ignition sources.

**Materials to avoid:** Strong oxidizing agents (e.g. nitrates, perchlorates) – can increase risk of fire and explosion.

**Hazardous decomposition products:** None.

## SECTION 11 — TOXICOLOGICAL INFORMATION

**LD<sub>50</sub>:** Not available or this product or its major ingredients.

**LC<sub>50</sub>:** Not available for the product.

Major ingredients:

n-Butane LC<sub>50</sub> (rat, inh. ): 276 000 ppm (658000 mg/m<sup>3</sup>) (4-hour exposure)

Isobutane LC<sub>50</sub> (mouse, inh.): 52 000 ppm (52%) (2-hour exposure)

**Routes of exposure:** Inhalation, eye and skin contact.

**Toxicological data:** No specific data.

**Carcinogenicity:** None of the ingredients has been listed by IARC, ACGIH, OSHA or NTP as carcinogenic.

**Teratogenicity, mutagenicity, other reproductive effects:** No specific data.

**Sensitization to material:** No specific data.

**Conditions aggravated by exposure:** None reported.

**Synergistic materials:** None reported.

## SECTION 12 — ECOLOGICAL INFORMATION

**Environmental effects:** No specific data.

## SECTION 13 — WASTE DISPOSAL

**Handling for disposal:** Allow gas to dissipate safely into the atmosphere or use as fuel.

**Methods of disposal:** Comply with all applicable local, state and federal regulations regarding disposal.

**SECTION 14 — TRANSPORTATION INFORMATION**

**Transportation of Dangerous Goods (TDG) information:**

*Shipping description:* Liquefied Petroleum Gas UN1075,2.1 (flammable gas)

**49 CFR information:**

*Shipping description:* Liquefied Petroleum Gas UN1075,2.1 (flammable gas)

**International Dangerous Goods information:**

*IMO:* Liquefied Petroleum Gas UN1075,2.1 (flammable gas)

*ICAO:* Liquefied Petroleum Gas UN1075,2.1 (flammable gas)

**Other information:** Special exemption may apply due to the size of containers.

**SECTION 15 — REGULATORY INFORMATION**

**WHMIS information:** A, B5, D2B

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and this MSDS contains all the information required by the CPR.

**CEPA information:** All ingredients are included on the DSL.

**TSCA information:** All ingredients are included on the TSCA list.

**SECTION 16 — OTHER INFORMATION**

**Prepared by:** HOLLOWICK INC.

**Telephone number:** (800) 367-3015 OR (315) 682-2163

**Preparation date:** January 03, 2003

**Revised/Update:** February 7, 2012

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The Hazardous Materials Identification System (HMIS) and National Fire Protection Association (NFPA) ratings have been included by Hollowick in order to provide additional health and hazard classification information. The ratings recommended are based upon the criteria supplied by the developers of these rating systems, together with Hollowick's interpretation of the available data.