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MSDS: n-Butane

PRODUCT INFORMATION

PRODUCT: n-Butane

TRADE NAME: n-Butane, Butane, Normal Butane

CHEMICAL NAME: n-Butane, Butane, Normal Butane

SYNONYMS: Diethyl, Methylethylmethane

FORMULA: C₄H₁₀

CHEMICAL FAMILY: Aliphatic Hydrocarbon

SUPPLIER'S NAME: MEGS Inc.

SUPPLIER'S ADDRESS: 2675 De Miniac

Ville St-Laurent, Qc, H4S 1E5

EMERGENCY PHONE NUMBER: (514) 956-7503

MOLECULAR WEIGHT: 58.14

PRODUCT USE: Various

PRODUCT IDENTIFICATION UN 1011

NUMBER:

HAZARDOUS INGREDIENTS

CHEMICAL ID	CONCENTRATION	CAS #	LD(50)	LC(50)
	100%			
n-Butane		106-97-8	None	Inhl Rat 658mg/m ³ /4 h

PHYSICAL DATA

PHYSICAL STATE: Gas and liquid under pressure

APPEARANCE: Colorless, gas and liquid

ODOR: Faint odor

ODOR THRESHOLD: Unknown

SPECIFIC GRAVITY (H₂O = 1): 0.602

VAPOR PRESSURE: 176 kPa @ 15°C

VAPOR DENSITY (air = 1): 2.07
EVAPORATION RATE: Unknown
BOILING POINT: -0.5°C
FREEZING POINT: -138.3°C
pH: Not applicable
GAS DENSITY: 2.48 kg/m³ @ 15°C, 101.3 kPa
COEFFICIENT OF WATER/OIL 20°C, Bunsen Coefficient = 0.0325
DISTRIBUTION:

FIRE OR EXPLOSION HAZARD

CONDITIONS OF FLAMMABILITY: Flammable over a specific range in air

MEANS OF EXTINCTION: Water, carbon dioxide, dry chemical.
"Stop flow of gas before extinguishing fire".

FLASHPOINT AND METHOD OF DETERMINATION: -73.9°C cc

UPPER EXPLOSION LIMIT (% BY VOL): 8.4

LOWER EXPLOSION LIMIT (% BY VOL): 1.8

AUTO-IGNITION TEMPERATURE: 420°C

FLAMMABILITY CLASSIFICATION: Class 1, Group D

HAZARDOUS COMBUSTION: None

PRODUCTS:

EXPLOSION DATA: Yes with oxidants

SENSITIVITY TO STATIC DISCHARGE: Yes

REACTIVITY DATA

CHEMICAL STABILITY: Stable

INCOMPATIBLE MATERIALS: Oxidizers

CONDITIONS OF REACTIVITY: None

HAZARDOUS DECOMPOSITION: None

PRODUCTS:

TOXICOLOGICAL PROPERTIES

ROUTES OF ENTRY:

SKIN CONTACT: Contact with the rapidly boiling liquid could cause frostbite or cryogenic "burns".

SKIN ABSORPTION: None

EYE: None

INHALATION: Moderate concentrations so as to exclude an adequate supply of oxygen to the lungs causes dizziness, drowsiness, and eventual unconsciousness. It is also a narcotic which acts as a depressant on the central nervous system.

INGESTION: None

ACUTE OVER EXPOSURE EFFECTS: Breathing high concentrations causes a narcotic effect; however, the major property is the exclusion of an adequate supply of oxygen to the lungs. Frostbite effects are a change in color of the skin to gray or white possibly followed by blistering.

CHRONIC OVER EXPOSURE EFFECTS: None known

EXPOSURE LIMITS: TWA = 800 molar ppm (ACGIH 1995-1996)

IRRITANCY OF PRODUCT: None

SENSITIZATION TO MATERIAL: None

CARCINOGENICITY, REPRODUCTIVE EFFECTS: None known

TERATOGENICITY, MUTAGENICITY: None

TOXICOLOGICALLY SYNERGISTIC PRODUCTS: None

PREVENTIVE MEASURES

PERSONAL PROTECTIVE EQUIPMENT: Plastic or rubber gloves. Safety goggles or glasses. Safety shoes, safety shower and eyewash "fountain".

SPECIFIC ENGINEERING CONTROLS: Butane is noncorrosive and may be used with any common structural material.

LEAK AND SPILL PROCEDURES: EVACUATE ALL PERSONNEL FROM AFFECTED AREA.

Use appropriate protective equipment. If leak is in user's equipment, be certain to purge piping with an inert gas prior to attempting repairs. If leak is on container or container valve, contact the closest MEGS location.

WASTE DISPOSAL: Do not attempt to dispose of waste or unused quantities. Return in the shipping container properly labeled, with any valve outlet plugs or caps secured and valve protection cap in place to MEGS for proper disposal. For

emergency disposal, contact the closest MEGS location.

HANDLING PROCEDURES AND EQUIPMENT: USE ONLY IN WELL-VENTILATED AREAS.

Valve protection caps must remain in place unless container is secured with valve outlet piped to the point of use. Do not drag, slide or roll cylinders. Use a suitable hand truck for cylinder movement. Use a pressure reducing regulator when connecting cylinder to lower pressure piping or systems. Do not heat cylinder by any means to increase the discharge rate of product from the cylinder. Use a check valve or trap in the discharge line to prevent hazardous back flow into the cylinder. Do not tamper with valve safety device. Close valve after each use and when empty.

STORAGE REQUIREMENTS: Protect cylinders from physical damage. Store in cool, dry, well-ventilated area of non combustible construction away from heavily trafficked areas and emergency exits. Do not allow the temperature where cylinders are stored to exceed 52°C. Cylinders must be stored upright and firmly secured to prevent falling or being knocked over. Full and empty cylinders should be segregated. Use a "first in - first out" inventory system to prevent full cylinders being stored for excessive periods of time. Post "No Smoking or Open Flames" signs in the storage or use area. There should be no sources of ignition in the storage or use area.

TDG CLASSIFICATION: 2.1

WHMIS CLASSIFICATION: A, B3

SPECIAL SHIPPING INFORMATION: Always secure cylinders in an upright position before transporting them. NEVER transport cylinders in trunks of vehicles, enclosed vans, truck cabs or in passenger compartments. Transport cylinders secured in open flatbed or in open pick-up type vehicles.

FIRST AID MEASURES

SPECIFIC FIRST AID PROCEDURES: PROMPT MEDICAL ATTENTION IS MANDATORY IN ALL CASES OF OVEREXPOSURE TO n-BUTANE. RESCUE PERSONNEL SHOULD BE EQUIPPED WITH SELF-CONTAINED BREATHING APPARATUS AND BE COGNIZANT OF EXTREME FIRE AND EXPLOSION HAZARD.

INHALATION: Conscious persons should be assisted to an uncontaminated area and inhale fresh air. Quick removal from the contaminated area is most important. Unconscious persons should be moved to an uncontaminated area, given assisted resuscitation and supplemental oxygen. Further treatment should be symptomatic and supportive.

EYE CONTACT: PERSONS WITH POTENTIAL EXPOSURE TO n-BUTANE SHOULD NOT WEAR CONTACT LENSES.

SKIN CONTACT: Dermal Contact or Frostbite: Remove contaminated clothing and flush affected areas with lukewarm water. DO NOT USE HOT WATER. A physician should see the patient promptly if the cryogenic "burn" has resulted in blistering of the dermal surface or deep tissue freezing.

PREPARATION INFORMATION

PREPARED BY: Safety Department

DATE PREPARED: 01/01/1999

LAST REVISION DATE: 05/21/2009

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