

EMS CATALOG NO: 11920
EMS PRODUCT: n-Butyl Alcohol
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PAGE NUMBER: One of 6

MATERIAL SAFETY DATA SHEET

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FOR PRODUCT AND SALES INFORMATION

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PRODUCT IDENTIFICATION

PRODUCT NAME: Butyl Alcohol
CAS NO.: 71-36-3
SYNONYM: 1-Butanol, Propylcarbinol, n-Butanol, n-Butyl alcohol, Hydroxybutane, Propyl methanol
FORMULA: CH₃(CH₂)₂CH₂OH

INGREDIENTS

INGREDIENT:	%:	TLV:
Butyl Alcohol	100	Exposure limits: ACGIH Ceiling limit 25 ppm (76mg/m ³) (Skin)
CAS # 71-36-3		

TOXICITY VALUES OF THE HAZARDOUS INGREDIENTS: Butyl Alcohol

ORAL(LD50):Acute: 790 mg/kg (Rat) 2500 mg/kg (Bird) 3484 mg/kg (Rabbit)
DERMAL(LD50):Acute: 3400 mg/kg (Rabbit).
VAPOR (LC50):Acute: 24800 mg/m3 (Mammal). 8000 ppm (Rat) (4H)

PHYSICAL DATA

PHYSICAL STATE AND APPEARANCE/ODOR: Colorless liquid with slight odor.

pH(1% soln/H2O): 7 (70 g/L)
ODOR THRESHOLD: 10-25 ppm
PERCENT VOLATILE: 100% (V/)
FREEZING POINT: -89oC
BOILING POINT: 117-119oC
SPECIFIC GRAVITY: 0.81 (H2O=1)
VAPOR DENSITY: 2.6 (Air=1)
VAPOR PRESSURE: 4.2 mm Hg @ 20oC
WATER/OIL DIST. COEFF.: Not available
EVAPORATION RATE: 33 Ether (anhydrous)
SOLUBILITY IN H2O: Partially soluble in cold water.

FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (oC): 28.9oC (Closed Cup)
FLAMMABLE LIMITS: LEL 1.4%
UEL 11.2%

AUTOIGNITION (oC): 343oC

FIRE DEGREDDATION PRODUCTS: Oxides of carbon (CO,Co2).

FIRE EXTINGUISHING PROCEDURES:

Use DRY chemical, carbon dioxide, alcohol foam or water spray. Water may be ineffective to extinguish fires. Wear adequate personal protection to prevent contact with material or its combustion products. Self contained breathing apparatus with a full face piece operated in a pressure demand or other positive pressure mode. Cool containing vessels with flooding quantities of water.

FIRE AND EXPLOSION HAZARDS:

Flammable liquid. Vapors form from this product may travel or be moved by air currents and ignited by pilot lights, other flames, sparks, heaters, electrical equipment, static discharges or other ignition sources at locations distant from handling point. Vapor forms explosive mixture with air. Container explosion may occur under fire conditions or when heated. Contact with oxidizers may cause fire and/or explosion. Sensitive to static discharge. This material may produce a floating fire hazard. May re-ignite after fire is extinguished. Emits toxic fumes under fire

conditions.

TOXICOLOGICAL PROPERTIES

PRIMARY ROUTE(S) OF ENTRY: Inhalation and ingestion. Eye contact, skin contact. Skin absorption.

EFFECTS OF ACUTE EXPOSURE:

Harmful by ingestion inhalation or skin absorption. Irritant. Target organs: blood, ears, central nervous system, liver, kidneys, eyes, skin, respiratory system.

EYES: Causes severe irritation. May cause severe burns and loss of vision. May cause permanent damage. Redness, keratoconjunctivitis, photophobia. Irritation: Eye-rabbit 2 mg/24 hr SEVERE.

SKIN: Prolonged or repeated contact causes severe irritation, defatting dermatitis. Can be absorbed in toxic amounts, especially from prolonged or repeated exposure.

INHALATION: Material is irritating to the mucous membranes and upper respiratory tract. Causes nausea, vomiting, headache, dizziness, weakness, fatigue, central nervous system depression, and possible asphyxiation.

INGESTION: Can cause gastrointestinal disturbance. Headache, vomiting, diarrhea, nausea, stupor, central nervous system depression, liver and kidney damage possibility of death by pulmonary aspiration of liquid.

EFFECTS OF CHRONIC OVEREXPOSURE:

Repeated or prolonged exposure to n-butyl alcohol at concentrations above the TLV combined with high noise levels may cause serious hearing loss in the form of auditory nerve and vestibular injury. May cause dermatitis and lachymation. Animal: anemia, liver, kidney, eye and lung damage. Detected in maternal milk in human. To the best of our knowledge, the chemical, physical, and toxicity of this substance has not been fully investigated.

FIRST AID MEASURES

EYES: Immediately flush eyes with copious quantities of water for at least 15 minutes holding lids apart to ensure flushing of the entire surface. Seek medical attention.

SKIN: Immediately flush skin with soap and water for at least 15 minutes while removing contaminated clothing and

shoes. Call a physician. Wash clothing before reuse.

INHALATION: Remove patient to fresh air. Administer approved oxygen supply if breathing is difficult. Administer artificial respiration or CPR if breathing has ceased. Call a physician.

INGESTION: If conscious, wash out mouth with water. Have conscious person drink several glasses of water to dilute. DO NOT induce vomiting. Seek immediate medical attention. Never give anything by mouth to an unconscious person. Guard against aspiration into lungs.

REACTIVITY DATA

STABILITY: Stable
CONDITIONS TO AVOID: High temperatures, sparks, open flames and all other sources of ignition.

INCOMPATIBILITY:

Chromium trioxide, aluminum, phosphorus trichloride, oxidizing agents, acids, bases, acid anhydrides, acid chlorides, aldehydes, acetaldehyde, ethylene oxide, hexamethylene dilsocyanate, hydrogen peroxide, sulfuric acid, hypochlorous acid, dilsocyanates, isocyanates, lithium aluminum hydride, nitrogen teroxide, perchloric acid, barium perchlorate, diethyl aluminum bromide, tri-isobutyl aluminum, copper, alloys, reducing agents, alkali metals. This product attacks certain types of plastic and rubber.

REACTION PRODUCT(S): Not available. Hazardous polymerization will not occur.

PREVENTATIVE MEASURES

PROTECTIVE CLOTHING IN CASE OF SPILL AND LEAK:

Wear self contained breathing apparatus, rubber boots and heavy rubber gloves.

SPILL/LEAKS PROCEDURES:

Evacuate the area. Eliminate all sources of ignition. Absorb on sand or vermiculite and place in a closed container for disposal. Ventilate area and wash spill site after material pick up is complete. Use non-sparking tools. DO NOT empty into drains. DO NOT touch spilled material.

WASTE DISPOSAL METHOD:

Burn in a chemical incinerator equipped with an after burner and

scrubber. According to all applicable regulations.

STORAGE AND HANDLING:

Store in a cool place away from heated areas, sparks, and flame. Store in a well ventilated area. Store away from incompatible materials. Do not add any other material to the container. Do not wash down the drum. Do not breathe gas/fumes/vapor/spray. In case of insufficient ventilation, wear suitable respiratory equipment. Keep away from direct sunlight or strong incandescent light. Keep container tightly closed and dry. Manipulate in a well ventilated area or under an adequate fume hood. Take precautionary measures against static discharges. Ground the container while dispensing. Use only explosion proof equipment. Use non-sparking tools. Watch for accumulation in low confined areas. Empty containers may contain a hazardous residue. Handle and open container with care. Do not get in eyes, on skin, or on clothing. Wash well after use. In accordance with good storage and handling practices. Do not allow smoking and food consumption while handling. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively. In case of accident or if you feel unwell, seek medical advice immediately (show the label when possible).

PROTECTIVE MEASURES

PROTECTIVE CLOTHING:

Safety goggles. Neoprene or nitrile rubber gloves. Impervious apron, coveralls, and/or other resistant protective clothing. Sufficient to protect skin. A OSHA/MSHA jointly approved respirator is advised in the absence of proper environmental controls. If more than TLV, do not breathe vapor. Wear self-contained breathing apparatus. Do not wear contact lenses. Make eye bath and emergency shower available.

ENGINEERING CONTROLS:

Local mechanical exhaust ventilation capable of maintaining emissions at the of use below the lowest TLV. Use explosion-proof ventilation equipment. Do not use in infantility spaces.

OTHER INFORMATION

SPECIAL PRECAUTIONS OR COMMENTS:

FLAMMABLE LIQUID! IRRITANT! Do not breathe vapor. Avoid all contact with the product. Avoid prolonged or repeated exposure. Manipulate in a well ventilated area or under an adequate fume hood. Keep away from heat, sparks and flame. Take precautionary measures against static discharges. Bond and ground transfer containers and equipment to avoid static accumulation. Use non-sparking tools. Handle and open container with care.

Container should be opened only by a technically qualified person. Harmful to aquatic life at low concentrations. Can be dangerous if allowed to drinking water intakes. Do not contaminate domestic or irrigation water supplies, lakes, streams, ponds, or rivers.

Synergistic materials: Alcohols may interact synergistically with chlorinated solvents (example: carbon tetrachloride, chloroform, bromotrichloromethane), dithiocarbamates (example: disulfiram), aromatic hydrocarbons (example: xylene), dimethylnitrosamine and thloacetamide.

Emergency Medical Care:

Butyl alcohol is especially toxic if aspirated. The vapors appear to cause a special vacuolar kertopathy in humane. There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient. This product contains materials that may cause severe pneumonitis if aspirated. If ingestion has occurred less than 2 hours earlier, carry out careful gastric lavage; use endotracheal cuff if available, to prevent aspiration. Observe patient for respiratory difficulty from aspiration pneumonitis. Give artificial resuscitation and appropriate chemotherapy if respiration is depressed.

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