T & S Educational/Kemtec Science

(513) 860-4949

# MATERIAL SAFETY DATA SHEET

MSDS No.: BB0235
Effective Date: January 1, 2007

## SECTION I NAME

| | |
|---|---|
| **Product** | n-Butyl Alcohol |
| **Chemical Synonyms** | Normal Butyl Alcohol; 1-Butanol |
| **Formula** | $CH_3(CH_2)_3OH$ |
| **Unit Size** | up to 20 Lt. |
| **C.A.S. No.** | 71-36-3 |

**24 HOUR EMERGENCY ASSISTANCE**

CHEMTREC
800-424-9300
Day 585-226-6177

NFPA: 3 / 1 / 0

| HMIS * | |
|---|---|
| Health | 2 |
| Fire | 3 |
| Reactivity | 1 |

HAZARD RATING

| MINIMAL | SLIGHT | MODERATE | SERIOUS | SEVERE |
|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 |

## SECTION II INGREDIENTS OF MIXTURES

| Principal Component(s) | % | TLV Units |
|---|---|---|
| n-Butyl alcohol | 100% | See Section V. |
| | | |
| WARNING! FLAMMABLE! HARMFUL IF SWALLOWED. | | |
| VAPOR HARMFUL. CAUSES SKIN AND EYE IRRITATION. | | |

## SECTION III PHYSICAL DATA

| | | | |
|---|---|---|---|
| Melting Point (°F) | -89°C (-128°F) | Specific Gravity ($H_2O$ = 1) | 0.8108 at 20/20°C. |
| Boiling Point (°F) | 117.5°C (242°F) | Percent Volatile by Volume (%) | 100% |
| Vapor Pressure (mm Hg) | 4.1 mm at 20°C | Evaporation Rate ( n-Butyl acetate =1) | 0.43 |
| Vapor Density (Air=1) | 2.6 | | |
| Solubility in Water | Moderate. | | |
| Appearance & Odor | Colorless, mobile liquid; strong odor. | | |

## SECTION IV FIRE AND EXPLOSION HAZARD DATA

| Flash Point (Method Used) | Flammable Limits in Air % by Volume | Lower | Upper |
|---|---|---|---|
| 98°F (37°C) TCC. | | 1.4 | 11.2 |

**Extinguisher Media**: Carbon dioxide; dry chemical; "alcohol" foam; water fog.

**SPECIAL FIREFIGHTING PROCEDURES**

In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective clothing. Cool fire exposed containers with water.

(2004 EMERGENCY RESPONSE GUIDEBOOK, RSPA P 5800.7, GUIDE PAGE NO. 129)

**UNUSUAL FIRE AND EXPLOSION HAZARDS**

Fire or excessive heat may produce hazardous decomposition products; can react vigorously with oxidizing materials. Containers exposed to intense heat from fires should be cooled with water to prevent vapor pressure build up which could result in container rupture.

**D.O.T.** Butanols, 3, UN1120, PG III, Ltd Qty ≤ 5 Lt.

Approved by U.S. Department of Labor "essentially similar" to form OSHA-20

## SECTION V HEALTH HAZARD DATA BB0235

**Threshold Limited Value**: STEL: 50 ppm (ACGIH 2001). Acute Dermal LD50 4.2g/kg (Rabbit). Toxicity: Acute oral LD50 2.5g/kg (Rat); Acute Inhalation LC50 No deaths at 8000 ppm/ 4H (Rat).

**Effects of Overexposure**: **INHALATION:** Vapors cause irritation to upper respiratory tract. High vapor concentrations can produce headache, dizziness, drowsiness, CNS depression. **EYES:** Contact with the liquid or vapor causes irritation. Prolonged and repeated exposure to the vapor may result in corneal injury. **SKIN:** Prolonged and repeated contact causes drying and cracking of the skin, which result in skin irritation and dermatitis. **INGESTION:** Harmful if swallowed. May cause central nervous system depression, headache, dizziness and nausea. Target organs: Central nervous system, liver, kidneys.

**Emergency and First Aid Procedures**: **INGESTION:** Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person. **EYES:** Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention. **SKIN:** Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention. **INHALATION:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

## SECTION VI REACTIVITY DATA

| Stability | | | Conditions to Avoid |
|---|---|---|---|
| | Unstable | | Excessive temperature and heat. |
| | Stable | X | |

**Incompatibility (Materials to Avoid)**: Strong mineral acids, strong oxidizers, copper and it's alloys. Aluminum containers.

**Hazardous Decomposition Products**: Thermal decomposition or burning may produce carbon monoxide and unidentified organic compounds.

| Hazardous Polymerization | | Conditions to Avoid |
|---|---|---|
| May Occur | Will Not Occur | Not applicable. |
| | X | |

## SECTION VII SPILL OR LEAK PROCEDURES

**Steps to be taken in case material is released or spilled**: Wearing proper protective equipment, provide adequate ventilation. Eliminate all sources of ignition. Absorb in sand, earth or vermiculite. Carefully sweep up and remove. Flush spill area with water. Do not allow wash water to pollute water ways and streams

**Waste Disposal Method**: Discharge, treatment, or disposal may be subject to Federal, State or Local laws. These disposal guidelines are intended for the disposal of catalog-size quantities only.

Dispose of in an approved incinerator or contract with a licensed waste disposal service.

## SECTION VIII SPECIAL PROTECTION INFORMATION

**Respiration Protection (Specify Type)**: In the laboratory, work in ventilation hood. Use an approved all purpose organic vapor canister mask for emergency clean up of spills, or an atmosphere-supplying respirator.

| Ventilation | | | | |
|---|---|---|---|---|
| | Local Exhaust | Recommended. | Special | No. |
| | Mechanical (General) | Recommended. | Other | No. |

**Protective Gloves** | **Eye Protection**

**Other Protective Equipment**: Goggles, smock, apron, proper gloves, ventilation hood, fire extinguisher, eye wash station.

## SECTION IX SPECIAL PRECAUTIONS

**Precautions to be Taken in Handling & Storing**: Keep away from heat, sparks, flame. Do not store in copper or its alloys. Wash thoroughly after handling. Do not store in aluminum equipment at temperatures over 120°F.

Keep container tightly closed when not in use.

**Other Precautions**: Read label on container before using. Do not wear contact lenses when working with chemicals. For laboratory use only. Not for drug, food or household use. Keep out of reach of children.

Avoid contact with eyes, skin and clothing. Avoid breathing vapors. Use with adequate ventilation. Remove and wash contaminated clothing.

| Revision No. 7 | Date 01/01/07 | Approved James A. Bertsch | Chemical Safety Coordinator JAB |
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