

MATERIAL SAFETY DATA SHEET

GENIUM PUBLISHING CORPORATION
 1145 CATALYN STREET
 SCHENECTADY, NY 12303-1836 USA
 (518) 377-8855



NO. 337

n-BUTYL ALCOHOL

Revision C

DATE June 1984

SECTION I. MATERIAL IDENTIFICATION

MATERIAL NAME: n-BUTYL ALCOHOL
 OTHER DESIGNATIONS: Butyl Alcohol, 1-Butanol, n-Butanol, Propylcarbinol, 1-Hydroxybutane, Butyric Alcohol, CH₃CH₂CH₂CH₂OH, GE Material D5B4, CAS #000 071 363, ASTM D304
 MANUFACTURER: Available from many suppliers, including:
 Eastman Chemical Products, Inc. Union Carbide Corp.
 Kingsport, TN 37662 Old Ridgebury Road
 Danbury, CT 06817

SECTION II. INGREDIENTS AND HAZARDS

	%	HAZARD DATA
<u>n</u> -Butyl Alcohol	99+	TLV(C) 50 ppm or 150 mg/m ³ (skin)* Human, Inhalation TCLo 25 ppm Irritation Effects Rat, Oral LD ₅₀ 790 mg/kg Rabbit, Skin LD ₅₀ 4200 mg/kg
*ACGIH (1983) TLV; (C) notation indicates a ceiling limit that should not be exceeded; (skin) notation indicates a potential contribution to overall exposure via skin absorption. Current OSHA PEL is 100 ppm or 300 mg/m ³ .		

SECTION III. PHYSICAL DATA

Boiling point, 1 atm, deg C -----	117-118	Specific gravity, 20/20 C -----	0.811
Vapor pressure at 20 C, mm Hg -----	4.4	Volatiles, % -----	~100
25 C, mm Hg -----	6.5	Evaporation rate (<u>n</u> -BuAc=1) -----	0.50
Vapor density (Air=1) -----	2.6	Melting point, deg C -----	-89
Solubility in water, 20 C, wt % --	7.7	Molecular weight -----	74.12
Viscosity at 20 C, cps -----	.3	Appearance & Odor: A clear, colorless liquid with a characteristic pungent, nonresidual odor. Odor recognition threshold (100% of test panel) is 2.0 ppm in air.	

SECTION IV. FIRE AND EXPLOSION DATA

		Lower	Upper
Flash Point and Method	Autoignition Temp.	Flammability Limits in Air	
>84 F (29C) (TCC)	>650F (343C)	>1.4	11.2

Extinguishing media: CO₂, dry chemical, and "alcohol" foam. Class B fire - Use blanketing effect to smother fire. Use of water may be ineffective in putting out fire, but water spray should be used to cool fire-exposed containers.
 When heated this material becomes a dangerous fire hazard and a moderate explosion hazard. Toxic fumes and degradation products can result from exposure to fire.
 Firefighters should use self-contained breathing apparatus.

SECTION V. REACTIVITY DATA

This is a stable liquid under normal storage conditions. It does not undergo hazardous polymerization.
n-Butanol is a flammable liquid, OSHA Class IC. Keep away from sources of heat and ignition.
 It is incompatible with strong oxidizing agents, strong mineral acids, alkali metals, and halogens.
 Thermal-oxidative degradation can produce partial oxidation products, including carbon monoxide.

SECTION VI. HEALTH HAZARD INFORMATION	TLV (C) 50ppm (skin) (See Sect II)
<p>Exposure to vapors can cause irritation to the nose, eyes, throat and mucous membranes at 50 ppm (mild effects reported as low as 25 ppm). Excessive exposure at 50 to 200 ppm can cause lacrimation, blurring of vision and photophobia. Some additional excessive exposure symptoms can include headaches, mild narcotic effects and central nervous system depression. <u>n-Butyl alcohol</u> is absorbed through the skin. It is also a defatting agent which can cause drying and dermatitis on repeated or prolonged exposure.</p> <p>Worker hearing loss with noise exposure reported <u>increased</u> with simultaneous exposure to <u>n-Butyl alcohol</u> at 80 ppm (See ref. 47) over a period of years. FIRST AID:</p> <p><u>Eye Contact:</u> Flush thoroughly with running water for 15 min. including under eyelids. Contact physician.</p> <p><u>Skin Contact:</u> Remove contaminated clothing. Wash affected area with water.</p> <p><u>Inhalation:</u> Remove to fresh air. Restore and/or support breathing as needed.</p> <p><u>Ingestion:</u> Contact physician. Give water or milk to drink. Induce vomiting if physician is not immediately available and victim is conscious and alert.</p> <p>Seek medical assistance for further treatment, observation and support after first aid.</p>	
SECTION VII. SPILL, LEAK, AND DISPOSAL PROCEDURES	
<p>Notify safety personnel. Remove ignition sources. Provide adequate ventilation. Clean-up personnel need skin and respiratory protection.</p> <p>Wipe up small spills and place soaked wiping material in an appropriate closed metal container for disposal; or place in an exhaust hood to evaporate completely, then burn. Dike area of large spills and collect liquid if possible or absorb with vermiculite, using nonsparking scoop to place in metal container and seal. A water spray can be used to dilute and flush spills to an appropriate collection area, but prevent spills from entering confined areas or sewers (explosion hazard) or surface waters.</p> <p>DISPOSAL: Incinerate waste by atomizing into a suitable combustion chamber. Bury absorbed waste in approved landfill. Follow Federal, State, and Local regulations.</p> <p>AQUATIC TOXICITY TLM 96: Over 1000 ppm</p>	
SECTION VIII. SPECIAL PROTECTION INFORMATION	
<p>Provide adequate general and local exhaust ventilation (explosion-proof) to meet TLV requirements. Hood exhaust levels should be maintained at 100 fpm face velocity.</p> <p>Use approved respiratory apparatus for nonroutine or emergency use above the TLV; a chemical cartridge respirator with a full facepiece and an organic vapor cartridge is useful below 1000 ppm; up to 5000 ppm, use a self-contained breathing apparatus with a full facepiece (SCBAF); up to 8000 ppm (or unknown levels), use a SCBAF operated in positive pressure mode.</p> <p>Wear neoprene gloves and apron or other protective clothing where necessary to avoid skin contact. Chemical safety goggles should be worn in areas where splashing may occur. An eyewash fountain, washing facilities and a safety shower should be available near use areas.</p> <p>Individuals with skin disorders may be at an increased risk from severe exposures.</p>	
SECTION IX. SPECIAL PRECAUTIONS AND COMMENTS	
<p>Store in a clean, cool, well-ventilated area away from heat, ignition sources, oxidizing agents. Small amounts should be stored in metal safety cans in OSHA approved safety cabinets or storage rooms. Containers should be grounded and bonded for transfers to prevent static sparks. Use non-sparking tools. Storage facilities and electrical services should be appropriate for an OSHA Class IC flammable liquid.</p> <p>Do not smoke or eat in areas of storage or use. Avoid contact with eyes. Avoid inhalation of vapors or prolonged or repeated contact with skin. Wash thoroughly after handling. Use with adequate ventilation. Do not store or handle in containers of copper or its alloys.</p> <p>DOT Classification: FLAMMABLE LIQUID I.D. No. UN1120 Label: FLAMMABLE LIQUID</p> <p>DATA SOURCE(S) CODE: 1-12,14,23,25,27,31,34,38,45,47,48</p>	
<p>Judgments as to the suitability of information herein for purchaser's purposes are necessarily purchaser's responsibility. Therefore, although reasonable care has been taken in the preparation of such information, Genium Publishing Corporation extends no warranties, makes no representations and assumes no responsibility as to the accuracy or suitability of such information for application to purchaser's intended purposes or for consequences of its use.</p>	<p>APPROVALS: MIS/CRD <i>J. M. Kileen</i></p> <p>INDUST. HYGIENE/SAFETY <i>J. M. Kileen</i> 5-25-84</p> <p>MEDICAL REVIEW: 15 June 1984</p>