

Section 1: Identification

Common Name/Trade Name	BUTYL ALCOHOL NF	
Supplier Information	Letco Medical, LLC 1316 Commerce Drive NW Decatur, AL 35601 1 (800) 239-5288 +1 (734) 843-4693	IN CASE OF EMERGENCY: Chemtrec 1 (800) 424-9300 (24 hours)
Product Synonym(s)	1-Butanol Butyl alcohol n-Butanol	
Relevant Use(s) of Product	Manufacture or Compounding of Substances	

Section 2: Hazards Identification

Classification of Substance or Mixture	Flammable liquids (Category 3), Acute toxicity, Oral (Category 4), Skin irritation (Category 2), Eye irritation (Category 2A), Specific target organ toxicity - single exposure (Category 3), Respiratory system, Central nervous system	
Signal Word	Warning	
Hazard Statement(s)	H226 H302 H315 H319 H335 H336	Flammable liquid and vapour Harmful if swallowed Causes skin irritation Causes serious eye irritation May cause respiratory irritation May cause drowsiness or dizziness
Pictogram(s)		
Precautionary Statement(s)	P210 P233 P240 P241 P242 P243 P261 P264 P270 P271 P280 P301+P312 P303+P361+P353 P304+P340 P305+P351+P338 P312 P330 P332+P313 P337+P313 P362 P370+P378 P403+P233 P403+P235 P405 P501	Keep away from heat/sparks/open flames/hot surfaces – No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/light/equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing dust/fume/gas/mist/vapours/spray. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. IF SWALLOWED Call a POISON CENTER or doctor/physician if you feel unwell. IF ON SKIN (or hair) Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF IN EYES Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. continue rinsing. Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. If skin irritation occurs Get medical advice/attention. If eye irritation persists Get medical advice/attention. Take off contaminated clothing and wash before reuse. In case of fire Use for extinction. Store in a well ventilated place. Keep container tightly closed. Store in a well ventilated place. Keep cool. Store locked up. Dispose of contents/container to an approved waste disposal plant.
Hazards Not Otherwise Classified	No data available	
Ingredient(s) with Unknown Toxicity	No data available	

Section 3: Composition/Information on Ingredients

Chemical Name	1-Butanol Butyl alcohol n-Butanol
Common Name	Butyl alcohol
CAS Number	71-36-3
Impurities and/or Stabilizing Additives	No data available

Section 4: First Aid Measures

General Advice	Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
If Inhaled	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
In Case of Skin Contact	Wash off with soap and plenty of water. Consult a physician.
In Case of Eye Contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
If Swallowed	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult with a physician.
Most Important Symptoms and Effects	The most important known symptoms and effects are described in the labeling (see section 2.2) and/or section 11

Section 5: Fire Fighting Measures

Suitable Extinguishing Media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Special Hazards Arising From the Substance/Mixture	Carbon oxides Nature of decomposition products not known.
Special PPE and/or Precautions for Firefighters	Wear self contained breathing apparatus for fire fighting if necessary. Use water spray to cool unopened containers.

Section 6: Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures	Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe area. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Methods and Materials Used for Containment	Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations.
Cleanup Procedures	Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations. Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Section 7: Handling and Storage

Precautions for Safe Handling	Avoid contact with skin and eyes. Avoid inhalation of vapor mist. Keep away from sources of ignition-No smoking. Take measures to prevent the build up of electrostatic charge.
Conditions for Safe Storage	Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Section 8: Exposure Controls/Personal Protection

Components with Workplace Control Parameters	Component: n-Butanol CAS-No. 7 136-3 Value: TWA Control parameters: 20 ppm Basis: USA.ACGIH Threshold Limit Values. Remarks: Eye and Upper Respiratory Tract irritation. Value: C Control parameters: 50 ppm. 150 mg/m3 Basis: USA OSHA-Table Z-1 limits for Air Contaminants-1910.1000. Skin Notation: Value TWA Control parameters: 100 ppm 300 mg/m3. The value in mg/m3 is approximate. Value C. Control Parameters: 50 ppm 150 mg/m3. Basis USA. NIOSH Recommended Exposure Limits. Potential for dermal absorption.
Appropriate Engineering Controls	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
PPE - Eye/Face Protection	Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
PPE - Skin Protection	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
PPE - Body Protection	Complete suit protecting against chemicals, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
PPE - Respiratory Protection	Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Section 9: Physical and Chemical Properties

Appearance	Form: Liquid, clear Colour: Colourless
Upper/Lower Flammability or Explosive Limits	No data available
Odor	No data available
Vapor Pressure	5 hPa (4 mmHg) at 20 °C (68 °F)
Odor Threshold	No data available
Vapor Density	2.56 - (Air = 1.0)
pH	No data available
Relative Density	0.81 g/cm ³ at 25 °C (77 °F) Relative vapor density.
Melting Point/Freezing Point	Melting point/range: -90 °C (-130 °F) - lit.
Solubility	Water Soluble
Initial Boiling Point and Boiling Range	116 - 118 °C (241 - 244 °F) - lit.
Flash Point	35 °C (95 °F) - closed cup
Evaporation Rate	No data available
Flammability (Solid, Gas)	Upper explosion limit: 11.2 %(V) Lower explosion limit: 1.4 %(V)
Partition Coefficient	No data available
Auto-Ignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	No data available

Section 10: Stability and Reactivity

Reactivity	2.56 - (Air = 1.0)
Chemical Stability	Stable under recommended storage conditions.
Possibility of Hazardous Reactions	Vapours may form explosive mixture with air.
Conditions to Avoid	Heat, flames and sparks.
Incompatible Materials	Oxidizing agents, Alkali metals, Bases, Strong acids, Halogens
Hazardous Decomposition Products	Other decomposition products-No data available

Section 11: Toxicological Information

Acute Toxicity - LD50 Oral	LD50 Oral - rat - 790 mg/kg Remarks: Liver: Fatty liver degeneration. Kidney, Ureter, Bladder: Other changes. Blood: Other changes.
Acute Toxicity - Inhalation	LC50 Inhalation - rat - 4 h - 8000 ppm
Acute Toxicity - Dermal	LD50 Dermal - rabbit - 3,400 mg/kg
Acute Toxicity - Eye	Eyes-rabbit Result- Eye irritation
Skin Corrosion/Irritation	Skin-rabbit Result: Skin irritation-24 h
Serious Eye Damage/Irritation	Eyes-rabbit Results- Eye irritation
Respiratory or Skin Sensitization	No data available
Germ Cell Mutagenicity	No data available
Carcinogenicity IARC	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
Carcinogenicity ACGIH	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
Carcinogenicity NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
Carcinogenicity OSHA	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
Reproductive Toxicity	No data available
Specific Target Organ Toxicity - Single Exposure	May cause respiratory irritation. May cause drowsiness or dizziness.
Specific Target Organ Toxicity - Repeated Exposure	No data available
Aspiration Hazard	No data available

Section 12: Ecological Information

Toxicity	Toxicity to fish. LC50 - Pimephales promelas (fathead minnow) - 1,840 mg/l - 96 h. Toxicity to daphnia and other aquatic invertebrates EC50 - Daphnia magna (Water flea) - 1,983 mg/l - 48 h
Persistence and Degradability	No data available
Bio-accumulative Potential	Bioaccumulation Oncorhynchus mykiss (rainbow trout) - 24 h - 921 mg/l Bioconcentration factor (BCF): 0.38
Mobility in Soil	No data available
Other Adverse Effects	No data available

Section 13: Disposal Considerations

Waste Treatment Methods Product	Burn in a chemical incinerator equipped with an after-burner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal services to dispose of this material.
Waste Treatment Methods Packaging	Dispose of as unused product.
Special Precautions Landfill or Incinerations	No data available
Other Information	No data available

Section 14: Transport Information

UN Number	1120
UN Proper Shipping Name	Butanols
Transport Hazard Class(es)	3
Packaging Group	III
Environmental Hazards	Marine Pollutant: No Poison Inhalation Hazard: No

Section 15: Regulatory Information

SARA 302 Components: SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302. SARA 313 Components: SARA 313: The following components are subject to reporting levels established by SARA Title III, Section 313: n-Butanol CAS-No. 71-36-3 Revision Date 2007-07-01. SARA 311/312 Hazards: Fire Hazard, Acute Health Hazard, Chronic Health Hazard. Massachusetts Right To Know Components: n-Butanol CAS No. 71-36-3 Revision Date 2007-07-01. New Jersey Right To Know Components: n-Butanol CAS No. 71-36-3 Revision Date 2007-07-01. California Prop. 65 Components: This product does not contain any chemicals know to State of California to cause cancer, birth defects, or any other reproductive harm.

Section 16: Other Information

Additional Information	
Prepared By	Lisa Russell
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Disclaimer

Letco Medical, LLC believes that the above information is correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. If the product is used as a component in another product, this information may not be applicable. NO WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE, WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, IS MADE CONCERNING THE INFORMATION PROVIDED ABOVE. Letco Medical shall not be held liable for any loss or damage resulting from handling, storage, use or from contact with the above product.