

## SAFETY DATA SHEET

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifiers

Product name	n-Butyl Alcohol
CAS number	71-36-3
Synonyms	n-butanol; n-butyl alcohol; butan-1-ol

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Laboratory chemicals.
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#### 1.3 Details of the supplier of the safety data sheet

Company	Lab Alley, LLC 12501 Pauls Valley Road Austin, Texas 78737 U.S.A.
Telephone	512-668-9918
Fax	512-886-4008

#### 1.4 Emergency telephone

<b>Emergency Phone #</b>	US & Canada: 1-800-535-5053	INFOTRAC
	International 1-352-323-3500	INFOTRAC


### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable Liquids	Category 3
Acute Oral Toxicity	Category 4
Serious Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 1
Specific Target Organ Toxicity (single exposure)	Category 3
Target Organs - Respiratory system, Central nervous system (CNS)	

## 2.2 GHS Label elements, including precautionary statements

Pictogram	
Signal Word	Danger
Hazard statements	Flammable liquid and vapor. Harmful if swallowed. Causes skin irritation. Causes serious eye damage. May cause respiratory irritation. May cause drowsiness or dizziness.
Precautionary statements	<p>Prevention: Wash face, hands, and any exposed skin thoroughly after handling. Do not eat, drink, or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed.</p> <p>Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep cool. Get medical attention/advice if you feel unwell.</p> <p>IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.</p> <p>IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical attention.</p> <p>IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.</p> <p>IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.</p> <p>Fire: In case of fire, use CO<sub>2</sub>, dry chemical, or foam for extinction.</p> <p>Storage: Store in a well-ventilated place. Keep container tightly closed. Store locked up.</p>

Disposal: Dispose of contents/container to an approved waste disposal plant.

## 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

None identified.

## SECTION 3: Composition/information on ingredients

### 3.1 Components

Chemical name	Common name and synonyms	CAS number	Concentration
n-Butyl alcohol	n-butanol; n-butyl alcohol; butan-1-ol	71-36-3	> 99%

## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

#### General advice

- If inhaled** Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.
- In case of skin contact** Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.
- In case of eye contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
- If swallowed** Clean mouth with water and drink afterwards plenty of water.

### 4.2 Most important symptoms and effects, both acute and delayed

Difficulty in breathing. Symptoms or overexposure may be headache, dizziness, tiredness, nausea, and vomiting.

### 4.3 Indication of any immediate medical attention and special treatment needed

Note to Physician: Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media** Water spray, carbon dioxide (CO<sub>2</sub>), dry chemical, alcohol-resistant foam

**Unsuitable extinguishing media**

No information available.

## 5.2 Specific hazards arising from the substance or mixture

Flammable. Risk of ignition. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Containers may explode when heated. Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition.

## 5.3 Special protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## 5.4 Further information

**Flash Point** 35 °C / 95 °F

**Autoignition Temperature** 340 °C / 644 °F

### Explosion limits

**Upper** 11.2 vol%

**Lower** 1.4 vol%

**Sensitivity to Mechanical Impact** No information available.

**Sensitivity to Static Discharge** No information available.

### NFPA

Health	Flammability	Instability	Physical hazards
2	3	0	N/A

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment as required. Ensure adequate ventilation.

### 6.2 Environmental precautions

Should not be released into the environment.

### 6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

### 6.4 Reference to other sections

See Section 2 for full list of hazard and precaution statements.

## SECTION 7: Handling and storage

## 7.1 Precautions for safe handling

### Precautions on safe handling

Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation.

### Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

## 7.2 Conditions for safe storage, including any incompatibilities

### Storage conditions

Keep containers tightly closed in a dry, cool, and well-ventilated place. Keep away from heat, sparks, and flame. Flammables area.

### Incompatibilities

Strong oxidizing agents. Reducing Agents. Acid Chlorides. Copper. Copper alloys. Acid anhydrides.

## SECTION 8: Exposure controls/personal protection

### 8.1 Occupational exposure limits

#### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Component	Type	Value	
n-Butanol	Skin: Ceiling	50 ppm	150 mg/m <sup>3</sup>
	TWA	100 ppm	300 mg/m <sup>3</sup>

#### US. ACGIH Threshold Limit Values

Component	Type	Value
n-Butanol	TWA	20 ppm

#### US. NIOSH: Pocket Guide to Chemical Hazards

Component	Type	Value	
n-Butanol	IDLH	1400 ppm	
	Ceiling	50 ppm	150 mg/m <sup>3</sup>

#### Biological occupational exposure limits

No information available.

### 8.2 Exposure controls

#### Appropriate engineering controls

Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting equipment. Ensure that eyewash stations and safety showers are close to the workstation location.

## Personal protective equipment

### Eye/face protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

### Skin protection

Wear appropriate protective gloves.

### Body Protection

Wear appropriate clothing to prevent skin exposure.

### Respiratory protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

### Control of environmental exposure

Do not let product enter drains.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical State	Liquid
Appearance	Colorless
Odor	Alcohol-like
Odor Threshold	No information available
pH	No information available
Melting Point/Range	- 89 °C / -128.2 °F
Boiling Point/Range	117.6 °C / 243.7 °F
Evaporation Rate	0.46
Flammability (solid)	Not applicable
Flammability or explosive limit	
Upper	11.2 vol%
Lower	1.4 vol%
Vapor Pressure	6.7 mbar @ 20 °C
Vapor Density	2.6
Density	0.81
Solubility	Slightly soluble in water
Partition coefficient; n-octanol/water	No data available
Autoignition Temp	340 °C / 644 °F
Decomposition Temp	No information available
Viscosity	2.95 mPa.s (20 °C)

Molecular Formula	C4H10O
Molecular Weight	74.12
VOC Content(%)	1.39 - 1.40
Oxidizing properties	No information available

## 9.2 Other safety information

No information available.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No information available.

### 10.2 Chemical stability

Stable under normal conditions.

### 10.3 Possibility of hazardous reactions

None under normal processing.

### 10.4 Conditions to avoid

Keep away from open flame, hot surfaces, and sources of ignition.

### 10.5 Incompatible materials

Strong oxidizing agents, Reducing agents, Acid chlorides, copper, copper alloys, Acid anhydrides.

### 10.6 Hazardous decomposition products

Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>).

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Product Information, Component Information

#### Acute toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
n-Butanol	700 mg/kg (Rat)	3402 mg/kg (Rabbit)	8000 ppm (Rat)

#### Skin corrosion/irritation

Irritating to skin.

#### Serious eye damage/eye irritation

Severe eye irritant.

#### Respiratory or skin sensitization

Irritating to respiratory system.

**Germ cell mutagenicity**

No information available.

**Carcinogenicity**

Component	CAS	IARC	NTP	ACGIH	OSHA	Mexico
n-Butanol	71-36-3	Not listed	Not listed	Not listed	Not listed	Not listed

**Specific target organ toxicity - single exposure**

Respiratory system, Central Nervous System (CNS).

**Specific target organ toxicity - repeated exposure**

None known.

**Reproductive toxicity**

No information available.

**Chronic effects**

No information available.

**11.2 Additional Information**

The toxicological properties have not been fully investigated.

## SECTION 12: Ecological information

**12.1 Toxicity**

Product		Species	Test Results	
n-Butanol	EC50	P. subcapitata	225 mg/L	96 h
	EC50	D. subspicatus	500 mg/L	72 h
	EC50	D. subspicatus	500 mg/L	96 h
	LC50	P. promelas	1376 mg/L	92 h
	LC50	P. promelas	1740 mg/L	96 h
	LC50	P. promelas	1910000 µg/L	96 h
	LC50	P. promelas	1730-1910 mg/L	96 h
	EC50	Microtox	2014.4 mg/L	5 min
	EC50	Microtox	2186 mg/L	30 min
	EC50	Microtox	3980 mg/L	24 h
	EC50	Microtox	4400 mg/L	17 h
	EC50	Daphnia magna	1328 mg/L	48 h
	EC50	Daphnia magna	1897-2072 mg/L	48 h
	EC50	Daphnia magna	1983 mg/L	48 h

**12.2 Persistence and degradability**

Soluble in water. Persistence is unlikely based on information available.



### 12.3 Bio accumulative potential

No information available.

### 12.4 Mobility in soil

Will likely be mobile in the environment due to its water solubility.

### 12.5 Results of PBT and vPvB assessment

No information available.

### 12.6 Endocrine disrupting properties

No information available.

### 12.7 Other adverse effects

No information available.

## SECTION 13: Disposal considerations

### 13.1 Waste Disposal Methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

Component	RCRA - U Series Wastes	RCRA - P Series Wastes
n-Butyl alcohol - 71-36-3	U031	-

## SECTION 14: Transport information

#### DOT (US)

UN-no	UN1120
Proper Shipping Name	Butanols
Hazard Class	3
Packing Group	III

#### IMDG

UN-no	UN1120
Proper Shipping Name	Butanols
Hazard Class	3
Packing Group	III

#### IATA

UN-no	UN1120
Proper Shipping Name	Butanols
Hazard Class	3
Packing Group	III

## SECTION 15: Regulatory information

**US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**  
Not applicable.

**CERCLA Hazardous Substance List (40 CFR 302.4)**  
Listed, n-Butyl alcohol (CAS #71-36-3), RQ: 5000 lb.

**SARA 304 Emergency release notification**  
Not regulated.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)**  
Not listed.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**SARA 302 Extremely hazardous substance**  
Not listed.

**SARA 311/312 Hazardous**  
See Section 2 for more information.

**SARA 313 (TRI reporting)**  
Listed, n-Butyl alcohol (CAS #71-36-3).

**Other federal regulations**

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**  
Not regulated.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**  
Not regulated.

**Safe Drinking Water Act**  
Not regulated.

**FEMA Priority Substances Respiratory Health and Safety in the Flavor**  
Listed, n-Butyl alcohol (CAS #71-36-3).

**US state regulations**

**US. Massachusetts RTK - Substance List**  
Listed, n-Butyl alcohol (CAS #71-36-3).

**US. New Jersey Worker and Community Right-to-Know Act**  
Listed, n-Butyl alcohol (CAS #71-36-3).

**US. Pennsylvania Worker and Community Right-to-Know Law**

Listed, n-Butyl alcohol (CAS #71-36-3).

**California Proposition 65**

Not listed.

**SECTION 16: Other information**

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**SECTION 17: Disclaimer**

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.