

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 |
| Uses advised against | Food, drug, pesticide or biocidal product use. |

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

| | | |
|--------------------------|------------------------------|----------|
| Emergency Phone # | 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
Skin 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



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

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
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

Response Get medical attention/advice if you feel unwell

Inhalation 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

Skin If skin irritation occurs: Get medical attention
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse

Eyes 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

Ingestion IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth

Fire In case of fire: Use CO₂, dry chemical, or foam for extinction

Storage Store in a well-ventilated place. Keep container tightly closed
Store locked up

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 of 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 ₂), dry chemical, alcohol-resistant foam |
| Unsuitable extinguishing media | No information available |

5.2 Specific hazards arising from the substance or mixture

35 °C / 95 °F

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,

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 ³ |
| | TWA | 100 ppm | 300 mg/m ³ |

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 ³ |

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 and clothing to prevent skin exposure.

Body Protection

Wear appropriate protective gloves and 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

No information available

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 | negative 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 | C4 H10 O |
| Molecular Weight | 74.12 |
| Refractive index | 1.39-1.400 |
| Oxidizing properties | No information available |

9.2 Other safety information

No information available

SECTION 10: Stability and reactivity

10.1 Reactivity

None known, based on 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 flames, 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 (CO₂)

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) 4h |

Skin corrosion/irritation

No information available

Serious eye damage/eye irritation

Severe eye irritant; Irritating to respiratory system and skin

Respiratory or skin sensitization

No information available

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

No information available

SECTION 12: Ecological information

12.1 Toxicity

Do not flush into surface water or sanitary sewer system.

| Product | | Species | Test Results |
|-----------|------|--|--------------------|
| n-Butanol | EC50 | Freshwater Algae (<i>P. subcapitata</i>) | 225 mg/L 96h |
| | EC50 | Freshwater Algae (<i>D. subspicatus</i>) | 500 mg/L, 72h |
| | EC50 | Freshwater Algae (<i>D. Subspicatus</i>) | 500 mg/L 96h |
| | LC50 | Freshwater Fish (<i>P. promelas</i>) | 1376 mg/L 92h |
| | LC50 | Freshwater Fish (<i>P. promelas</i>) | 1740 mg/L 96h |
| | LC50 | Freshwater Fish (<i>P. promelas</i>) | 1910000 ug/L 96h |
| | LC50 | Freshwater Fish (<i>P. promelas</i>) | 1730-1910 mg/L 96h |
| | EC50 | Microtox | 2041.4 mg/L 5 min |
| | EC50 | Microtox | 2186 mg/L 30 min |
| | EC50 | Microtox | 3980 mg/L 24h |
| | EC50 | Microtox | 4400 mg/L 17h |
| | EC50 | Water Flea (<i>Daphnia magna</i>) | 1328 mg/L 48h |
| | EC50 | Water Flea (<i>Daphnia magna</i>) | 1897-2072 mg/L 48h |
| | EC50 | Water Flea (<i>Daphnia magna</i>) | 1983 mg/L 48h |

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.

SECTION 14: Transport information

DOT (US)

UN-no

UN 1120

Proper Shipping Name BUTANOLS
Hazard Class 3
Packing Group III

IMDG

UN-no UN 1120
Proper Shipping Name BUTANOLS
Hazard Class 3
Packing Group III

IATA

UN-no UN 1120
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)

Listed

CERCLA Hazardous Substance List (40 CFR 302.4)

n-Butanol RQ: 5000 lb

SARA 304 Emergency release notification

Not regulated

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not applicable

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not applicable

SARA 311/312 Hazardous

See section 2 for more information

SARA 313 (TRI reporting)

Not regulated

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
Manufacturing Workplace**

Not listed

US state regulations

US. Massachusetts RTK - Substance List

Listed

US. New Jersey Worker and Community Right-to-Know Act

Listed

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

Listed

California Proposition 65

Not listed

SECTION 16: Other information

Issue date: 10/17/2018

Revision 1: 06/28/2024

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.