



SAFETY DATA SHEET SDS/MSDS

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1- BUTANOL
MSDS CAS: 000071-36-3

20217

1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name : 1 - BUTANOL
Product code : 20217
Identification of the product : 1-Butanol
CAS No :71-36-3
EC No :200-751-6
Annex No :603-004-00-6
Chemical formula : C4H10O

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

Use : Laboratory. For professional use only.

1.3. Details of the supplier of the safety data sheet

Company identification : BIOCHEM CHEMOPHARAMA France
82 AV du 85eme de ligne 58200 Cosne Sur Loire
FRANCE
Tel : +33 3.86.27.24.96

1.4. Emergency telephone number

Phone nr : +33 3.86.27.24.96 (9:00am – 4:15pm)

2. Hazards identification -DSD

2.1. Classification of the substance or mixture

Classification EC 67/548 or EC 1999/45

Classification : R10
Xn; R22
R67
Xi; R37/38-41

Hazard Class and Category Code(s), Regulation (EC) No 1272/2008 (CLP)

Health hazards : Specific Target Organ Toxicity - Single exposure - Respiratory tract irritation - Category 3 - Warning (CLP : STOT SE 3) H335
Specific Target Organ Toxicity - Single exposure - Narcotic effects - Category 3 - Warning (CLP : STOT SE 3) H336
Serious eye damage - Category 1 - Danger (CLP : Eye Dam. 1) H318
Skin irritation - Category 2 - Warning (CLP : Skin Corr. 2) H315

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2. Hazards identification -DSD (continued)

Physical hazards : Acute toxicity, Oral - Category 4 - Warning (CLP : Acute Tox. 4) H302
: Flammable liquids - Category 3 - Warning (CLP : Flam. Liq. 3) H226

2.2. Label elements

Labelling EC 67/548 or EC 1999/45

Symbol(s)



Symbol(s)

: Xn : Harmful

R Phrase(s)

: R10 : Flammable.
R22 : Harmful if swallowed.
R37/38 : Irritating to respiratory system and skin.
R41 : Risk of serious damage to eyes.
R67 : Vapours may cause drowsiness and dizziness.

S Phrase(s)

: S2 : Keep out of the reach of children.
S7/9 : Keep container tightly closed and in well-ventilated place.
S13 : Keep away from food, drink and animal feedingstuffs.
S26 : In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S37/39 : Wear suitable gloves and eye/face protection.
S46 : If swallowed seek medical advice immediately and show this container or label.

Contains

: 1-Butanol

Labelling Regulation EC 1272/2008 (CLP)

Hazard pictograms

Signal words

: Danger

Hazard statements

: H226 : Flammable liquid and vapour.
H318 : Causes serious eye damage.
H302 : Harmful if swallowed.
H315 : Causes skin irritation.
H335 : May cause respiratory irritation.
H336 : May cause drowsiness or dizziness.

Precautionary statements

• **General**

: P102: Keep out of reach of children.
P103: Read label before use.
P101: If medical advice is needed, have product container or label at hand.



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2. Hazards identification -DSD (continued)

- **Prevention**
 - : P240: Ground/bond container and receiving equipment.
 - P241: Use explosion-proof electrical, ventilating, lighting, ..., equipment.
 - P210: Keep away from heat, sparks, open flames or hot surfaces. – No smoking.
 - P280: Wear protective gloves, protective clothing, eye protection, face protection.
 - P271: Use only outdoors or in a well-ventilated area.
 - P261: Avoid breathing dust, fume, gas, mist, vapours, spray.
 - P233: Keep container tightly closed.
 - P264: Wash thoroughly after handling.
 - P270: Do not eat, drink or smoke when using this product.
 - **Response**
 - : P302+P352: IF ON SKIN : Wash with plenty of soap and water.
 - P301+P312: IF SWALLOWED : Call a POISON CENTER or doctor if you feel unwell.
 - P332+P313: If skin irritation occurs : Get medical advice.
 - P305+P351+P338: IF IN EYES : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 - P304+P340: IF INHALED : Remove to fresh air and keep at rest in a position comfortable for breathing.
 - P303+P361+P353: IF ON SKIN (or hair) : Remove immediately all contaminated clothing. Rinse skin with water/shower.
 - P363: Wash contaminated clothing before reuse.
 - P370+P378: In case of fire: Use for extinction.
 - **Storage**
 - : P403+P233: Store in well-ventilated place. Keep container tightly closed.
 - P403+P235: Store in well-ventilated place. Keep cool.
 - P405: Store locked up.
 - **Disposal considerations**
 - : P501: Dispose of this material and its container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.
- Contains** : 1-Butanol

2.3. Other hazards

- Other hazards** : The substance does not fulfil the criteria to be identified as PBT substance or vPvB substance according to Annex XIII of Regulation REACH.

3. Composition/information on ingredients

Substance / Preparation : 1-Butanol
CAS No :71-36-3
EC No :200-751-6
Annex No :603-004-00-6
Substance.

Substance name	Contents	CAS No	EC No	Annex No	REACH Ref.	Classification
1-Butanol	100 %	71-36-3	200-751-6	603-004-00-6	----	R10 Xn; R22 R67 Xi; R37/38-41 ----- Eye Dam 1 _ H318 Flam. Liq. 3 _ H226 Acute Tox. 4 (oral) _ H302 Skin Irrit. 2 _ H315 STOT SE 3 _ H335 STOT SE 3 _ H336

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3. Composition/information on ingredients (continued)

Contains no other components or impurities which will influence the classification of the product.

4. First aid measures

4.1. Description of first aid measures

- Inhalation** : Call a POISON CENTER or doctor if you feel unwell. Remove to fresh air and keep at rest in a position comfortable for breathing.
- Skin contact** : Specific treatment (see on this label). Wash contaminated clothing before reuse. Remove/Take off immediately all contaminated clothing. Get medical advice. If skin irritation occurs : Wash with plenty of soap and water.
- Eye contact** : 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.
- Ingestion** : Obtain emergency medical attention. Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER or doctor if you feel unwell.

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

- Symptoms relating to use** : Swallowing a small quantity of this material will result in serious health hazard. Causes serious eye damage. Causes skin irritation. May cause respiratory irritation. May cause drowsiness or dizziness.

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

- General information** : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

5. Fire-fighting measures

5.1. Extinguishing media

- Suitable extinguishing media** : Foam. Dry powder. Carbon dioxide. Water spray. Sand.
- Unsuitable extinguishing media** : Do not use a heavy water stream.
- Surrounding fires** : Use water spray or fog for cooling exposed containers.

5.2. Special hazards arising from the substance or mixture

- Hazardous combustion products** : Under fire conditions, hazardous fumes will be present.

5.3. Advice for fire-fighters

- Protection against fire** : Do not enter fire area without proper protective equipment, including respiratory protection.

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5. Fire-fighting measures (continued)

Special procedures : Exercise caution when fighting any chemical fire. Avoid (reject) fire-fighting water to enter environment.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For emergency responders : Equip cleanup crew with proper protection.
Ventilate area.
Avoid breathing dust, fume, gas, mist, vapours, spray.

Technical measures : Use special care to avoid static electric charges.

Special precautions : Remove ignition sources. No naked lights. No smoking.

For non-emergency personnel : Evacuate unnecessary personnel.

6.2. Environmental precautions

Environmental precautions : Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Clean up methods : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Store away from other materials. Collect spillage.

6.4. Reference to other sections

See section 8. Exposure controls/personal protection

7. Handling and storage

7.1. Precautions for safe handling

Handling : Handle empty containers with care because residual vapours are flammable. Wash thoroughly after handling. Wash thoroughly after handling. Wash thoroughly after handling. Take precautionary measures against static discharge. Use only outdoors or in a well-ventilated area. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.

Technical protective measures : Provide good ventilation in process area to prevent formation of vapour. Proper grounding procedures to avoid static electricity should be followed. Use only non-sparking tools. Use explosion-proof electrical, ventilating, lighting, ..., equipment.

Special precautions : No naked lights. No smoking. Avoid breathing dust, fume, gas, mist, vapours, spray.



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7. Handling and storage (continued)

7.2. Conditions for safe storage, including any incompatibilities

- Storage** : Keep only in the original container in a cool, well ventilated place. Keep in fireproof place. Keep container tightly closed. Ground/bond container and receiving equipment.
- Storage - away from** : Strong bases. Strong acids. Sources of ignition. Direct sunlight. Heat sources.

7.3. Specific end use(s)

Specific end use(s) : None.

8. Exposure controls/personal protection

8.1. Exposure controls

- Personal protection** : Avoid all unnecessary exposure.
- **Respiratory protection** : Where exposure through inhalation may occur from use, respiratory protection equipment is recommended.
 - **Hand protection** : Wear protective gloves.
 - **Skin protection** : Wear suitable protective clothing.
 - **Eye protection** : Chemical goggles or safety glasses.
 - **Others** : When using, do not eat, drink or smoke.

8.2. Control parameters

Occupational Exposure Limits : No data available.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Physical state at 20 °C** : Liquid.
- Colour** : Clear Colorless
- Odour** : Strong characteristic,
- Odour threshold** : No data available.
- pH value** : No data available.
- Melting point [°C]** : -90 °C
- Decomposition point [°C]** : N/A
- Critical temperature [°C]** : N/A
- Auto-ignition temperature [°C]** : 3430C



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9. Physical and chemical properties (continued)

Flammability (solid, gas)	: Flammable. Flammable liquid and vapour.
Flash point [°C]	: 35 °C
Boiling point [°C]	: 116 - 118 °C
Initial boiling point [°C]	: 116 °C
Final boiling point [°C]	: 118 °C
Evaporation rate	: 0,46
Vapour pressure [20°C]	: 5 hPa at 20 °C
Vapour pressure mm/Hg	: N/A
Vapour density	: 2,56
Density [g/cm ³]	: 0,81
Relative density, gas (air=1)	: 0,81
Relative density, liquid (water=1)	: N/A
Solubility in water [% weight]	: In water, material soluble.
Solubility in water	: N/A
Log Pow octanol / water at 20°C	: No data available.
Solubility	: N/A
Viscosity at 40°C [mm ² /s]	: N/A

9.2. Other information

Explosive properties	: N/A
Explosion limits - upper [%]	: 11,20%
Explosion limits - lower [%]	: 1,40%
Oxidising properties	: No data available.

10. Stability and reactivity

10.1. Reactivity

Reactivity	: Not established.
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10.2. Chemical stability

Chemical stability	: Stable under recommended storage conditions.
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10.3. Possibility of hazardous reactions

Hazardous reactions	: Not established.
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10.4. Conditions to avoid



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10. Stability and reactivity (continued)

Conditions to avoid : Direct sunlight. Extremely high or low temperatures. Open flame. Overheating. Heat. Sparks.

10.5. Incompatible materials

Materials to avoid : Strong acids. Strong bases.

10.6. Hazardous decomposition products

Hazardous decomposition products : Fumes. Carbon monoxide. Carbon dioxide. May release flammable gases.

11. Toxicological information

11.1. Information on toxicological effects

Acute toxicity

- **Inhalation** : Based on available data, the classification criteria are not met.
- **Dermal** : Based on available data, the classification criteria are not met.
- **Ingestion** : Harmful if swallowed.

Corrosion

: Causes serious eye damage.

Irritation

: Causes skin irritation.
May cause respiratory irritation.

Sensitization

: Based on available data, the classification criteria are not met.

Mutagenicity

: Based on available data, the classification criteria are not met.

Carcinogenicity

: Based on available data, the classification criteria are not met.

Toxic for reproduction

: Based on available data, the classification criteria are not met.

STOT-single exposure

: May cause drowsiness or dizziness.

STOT-repeated exposure

: Based on available data, the classification criteria are not met.

Aspiration hazard

: Based on available data, the classification criteria are not met.

12. Ecological information

12.1. Toxicity

Toxicity information : Not established.

12.2. Persistence - degradability

Persistence - degradability : Biodegradable.

12.3. Bioaccumulative potential

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12. Ecological information (continued)

Bioaccumulative potential : Not established.

12.4. Mobility in soil

Mobility in soil : Not established.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment : The substance does not fulfil the criteria to be identified as PBT substance or vPvB substance according to Annex XIII of Regulation REACH.

12.6. Other adverse effects

Environmental precautions : Avoid release to the environment.

13. Disposal considerations

13.1. Waste treatment methods

General : Avoid release to the environment. Dispose in a safe manner in accordance with local/national regulations.
Dispose of this material and its container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Special precautions : Handle empty containers with care because residual vapours are flammable.

14. Transport information

14.1. Land transport (ADR-RID)

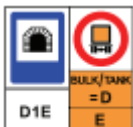
Proper shipping name : BUTANOLS
UN N° : 1120
H.I. nr :30
ADR - Class :3
Labelling - Transport : 3 : Flammable liquid.



ADR - Classification code :F1
F1
F1
ADR - Group : III

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ADR - Packing instructions : P001 R001 LP001
ADR - Limited Quantity : 5 L
ADR - Tunnel code



: D/E : Bulk or tank carriage: Passage forbidden through tunnels of category D and E. Other carriage: Passage forbidden through tunnels of category E.

14.2. Sea transport (IMDG) [English only]

Proper shipping name : BUTANOLS
UN N° : 1120
IMO-IMDG - Class or division : 3 : Flammable liquid.
IMO-IMDG - Packing group : III
IMO-IMDG - Packing instructions : P001 LP01
IMO-IMDG - Limited quantities : 5 L
IMO-IMDG - Marine pollution : No
EMS-Nr : F-E S-D

14.3. Air transport (ICAO-IATA) [English only]

Proper shipping name : BUTANOLS
UN N° : 1120
IATA - Class or division : 3 : Flammable liquid.
IATA - Packing group : III
IATA - Passenger and Cargo Aircraft : ALLOWED
- Passenger and Cargo - Packing instruction : 355
- Passenger and Cargo - Maximum Quantity/Packing : 60 L
IATA - Cargo only : ALLOWED
- Cargo only - Packing instruction : 366
- Cargo only - Maximum Quantity/Packing : 220 L
IATA - Limited Quantities : 10 L
ERG-Nr : 3L

15. Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**



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Safety, health and environmental regulations/legislation specific for the substance or mixture : Ensure all national/local regulations are observed.

REACH Restrictions - Annex XVII : The components of this product are not subject to restrictions.

REACH Authorisation - Annex XIV : The components of this product are not subject to authorization.

15.2. Chemical Safety Assessment

Chemical Safety Assessment : It has not been carried out.

16. Other information

Revision : Revision - See : *

Abbreviations and acronyms : PBT: persistent, bioaccumulative and toxic.
vPvB: very persistent and very bioaccumulative

Sources of key data used : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006

List of relevant R phrases (heading 3) : R10 : Flammable.
R22 : Harmful if swallowed.
R37/38 : Irritating to respiratory system and skin.
R41 : Risk of serious damage to eyes.
R67 : Vapours may cause drowsiness and dizziness.

List of full text of H-statements in section 3 : H226 : Flammable liquid and vapour.
H302 : Harmful if swallowed.
H315 : Causes skin irritation.
H318 : Causes serious eye damage.
H335 : May cause respiratory irritation.
H336 : May cause drowsiness or dizziness.

Further information : None.

In accordance with REACH Regulation (CE) N° 1907/2006 and with CLP Regulation (CE) N° 1272/2008

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n-BUTANOL for SYNTHESIS
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H335 : May cause respiratory irritation.
H336 : May cause drowsiness or dizziness.

Further information : None.

In accordance with REACH Regulation (CE) N° 1907/2006 and with CLP Regulation (CE) N° 1272/2008

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