

SECTION 1: Identification

1.1. Product identifier

Trade name	: BUTAN-1-OL
IUPAC name	: butan-1-ol
EC-No.	: 200-751-6
CAS-No.	: 71-36-3
UN-No. (ADR)	: 1120
Product code	: 102190xxx
Formula	: CH ₃ (CH ₂) ₃ OH

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

Recommended uses and restrictions	: For laboratory use only
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1.3. Supplier's details

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1.4. Emergency telephone number

Emergency number	: +27 11 452 1116
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to the United Nations GHS

Flammable liquids, Category 3	H226
Acute toxicity (oral), Category 5	H303
Acute toxicity (dermal), Category 5	H313
Skin corrosion/irritation, Category 2	H315
Serious eye damage/eye irritation, Category 1	H318
Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation	H335
Specific target organ toxicity — Single exposure, Category 3, Narcosis	H336
Hazardous to the aquatic environment - Acute Hazard	Not classified
Full text of H statements	: see section 16

2.2. Label elements

Labelling according to the United Nations GHS

Hazard pictograms (GHS-ZA) :



Signal word (GHS-ZA) : Danger

Hazard statements (GHS-ZA) :

- H226 - Flammable liquid and vapour.
- H303 - May be harmful if swallowed
- H313 - May be harmful in contact with skin
- H315 - Causes skin irritation.
- H318 - Causes serious eye damage.
- H335 - May cause respiratory irritation.
- H336 - May cause drowsiness or dizziness.

Precautionary statements (GHS-ZA) :

- P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P233 - Keep container tightly closed.
- P240 - Ground and bond container and receiving equipment.
- P241 - Use explosion-proof equipment.
- P242 - Use non-sparking tools.
- P243 - Take action to prevent static discharges.

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P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 - Wash hands, forearms and face thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 - IF ON SKIN: Wash with plenty of water.
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a POISON CENTER or doctor.
P312 - Call a POISON CENTER or doctor if you feel unwell.
P321 - Specific treatment (see supplemental first aid instruction on this label).
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P370+P378 - In case of fire: Use media other than water to extinguish.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P403+P235 - Store in a well-ventilated place. Keep cool.
P405 - Store locked up.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

Adverse physicochemical, human health and environmental effects : Flammable liquid and vapour, May cause drowsiness or dizziness, Harmful in contact with skin, Harmful if swallowed, May cause respiratory irritation, Causes skin irritation, Causes serious eye damage.

SECTION 3: Composition/information on ingredients

3.1. Substances

IUPAC name : butan-1-ol

Substance identification codes: See section 1.1

Name	Product identifier	%	Classification according to the United Nations GHS
n-butanol (Main constituent)	(CAS-No.) 71-36-3	≥ 99.5	Flam. Liq. 3, H226 Acute Tox. 5 (Oral), H303 Acute Tox. 5 (Dermal), H313 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 STOT SE 3, H336 Aquatic Acute Not classified

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Call a poison center or a doctor if you feel unwell.
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a poison center or a doctor if you feel unwell.
First-aid measures after skin contact : Rinse skin with water/shower. Take off immediately all contaminated clothing. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion : Rinse mouth. Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects : May cause drowsiness or dizziness.
Symptoms/effects after inhalation : May cause respiratory irritation.
Symptoms/effects after skin contact : Irritation.
Symptoms/effects after eye contact : Serious damage to eyes.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Flammable liquid and vapour.

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Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

No additional information available

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid contact with skin, eyes and clothing.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapours may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Use only outdoors or in a well-ventilated area. Avoid breathing dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing.

Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Ground/bond container and receiving equipment.

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

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

BUTAN-1-OL (71-36-3)	
South Africa - Occupational Exposure Limits (Recommended Limits)	
Local name	Butan-1-ol (n-Butyl Alcohol)
OEL STEL (mg/m ³)	150 mg/m ³
OEL STEL (ppm)	50 ppm
Remark	Sk
Regulatory reference	Government Notice. R: 1179

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment (PPE)

Hand protection : Protective gloves

Eye protection : Safety glasses

Skin and body protection : Wear suitable protective clothing

Respiratory protection : Full face mask with filter type A at conc. in air > exposure limit

Personal protective equipment symbol(s):

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According to SANS 10234:2019 and SANS 11014:2010



8.4. Exposure limit values for the other components

No additional information available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: No data available
Molecular mass	: 74.12 g/mol
Colour	: No data available
Odour	: No data available
Odour threshold	: No data available
pH	: No data available
pH solution	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Relative evaporation rate (ether=1)	: No data available
Melting point	: < -90 °C
Freezing point	: No data available
Boiling point	: 119 °C Atm. press.: 1013 hPa
Flash point	: 35 °C Atm. press.: 1013 hPa
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapour pressure	: < 10 hPa Temp.: 20 °C
Vapour pressure at 50 °C	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Relative density of saturated gas/air mixture	: No data available
Density	: 809.5 kg/m ³ Type: 'density' Temp.: 20 °C
Relative gas density	: No data available
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Partition coefficient n-octanol/water (Log Kow)	: No data available
Viscosity, kinematic	: 3.641 mm ² /s
Viscosity, dynamic	: 2.947 mPa·s Temp.: '20°C' Parameter: 'dynamic viscosity (in mPa s)'
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available
Lower explosive limit (LEL)	: No data available
Upper explosive limit (UEL)	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Flammable liquid and vapour.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

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According to SANS 10234:2019 and SANS 11014:2010

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : May be harmful if swallowed.
Acute toxicity (dermal) : May be harmful in contact with skin.
Acute toxicity (inhalation) : Not classified

BUTAN-1-OL (71-36-3)	
LD50 oral rat	≈ 2292 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 dermal rabbit	≈ 3430 mg/kg bodyweight Animal: rabbit, Animal sex: male, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)

Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation : Causes serious eye damage.
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : May cause respiratory irritation. May cause drowsiness or dizziness.
STOT-repeated exposure : Not classified

BUTAN-1-OL (71-36-3)	
LOAEL (oral, rat, 90 days)	500 mg/kg bodyweight Animal: rat
NOAEL (oral, rat, 90 days)	125 mg/kg bodyweight Animal: rat

Aspiration hazard : Not classified

BUTAN-1-OL (71-36-3)	
Viscosity, kinematic	3.641 mm ² /s

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute) : Not classified.
Hazardous to the aquatic environment, long-term (chronic) : Not classified

BUTAN-1-OL (71-36-3)	
LC50 fish 1	1376 mg/l Test organisms (species): Pimephales promelas
EC50 Daphnia 1	1328 mg/l Test organisms (species): Daphnia magna
NOEC (chronic)	4.1 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

12.2. Persistence and degradability

BUTAN-1-OL (71-36-3)	
Persistence and degradability	No additional information available

12.3. Bioaccumulative potential

BUTAN-1-OL (71-36-3)	
Bioaccumulative potential	No additional information available

12.4. Mobility in soil

BUTAN-1-OL (71-36-3)	
Mobility in soil	No additional information available

12.5. Other adverse effects

Ozone : Not classified
Other adverse effects : No additional information available

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According to SANS 10234:2019 and SANS 11014:2010




SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Additional information : Flammable vapours may accumulate in the container.

SECTION 14: Transport information

In accordance with SANS / IMDG / IATA

SANS	IMDG	IATA
14.1. UN number		
1120	1120	1120
14.2. Proper Shipping Name		
BUTANOLS	BUTANOLS	Butanols
14.3. Transport hazard class(es)		
3	3	3
		 Not applicable
14.4. Packing group		
II	II	II
14.5. Environmental hazards		
Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No
No supplementary information available		

14.6. Special precautions for user

- SANS

Limited quantities (SANS) : 1 L
Limited quantities (SANS) : 1 L
Packagings, large packagings and IBCs : P001, IBC02
Packing instructions (SANS)
Portable tank and bulk containers instructions (SANS) : T4
Portable tank and bulk container special provisions (SANS) : TP1, TP29

- IMDG

Limited quantities (IMDG) : 1 L
Excepted quantities (IMDG) : E2
Packing instructions (IMDG) : P001
IBC packing instructions (IMDG) : IBC02
Tank instructions (IMDG) : T4
Tank special provisions (IMDG) : TP1, TP29
EmS-No. (Fire) : F-E - FIRE SCHEDULE Echo - NON-WATER-REACTIVE FLAMMABLE LIQUIDS
EmS-No. (Spillage) : S-D - SPILLAGE SCHEDULE Delta - FLAMMABLE LIQUIDS
Stowage category (IMDG) : B
Properties and observations (IMDG) : Colourless liquids with a disagreeable odour. Explosive limits: normal-BUTANOL 1.4% to 11.2%. secondary-BUTANOL 1.7% to 9.8%. tertiary-BUTANOL 2.4% to 8%. tertiary-BUTANOL solidifies at about 25°C. normal-BUTANOL is immiscible with water. secondary-BUTANOL is immiscible with water. tertiary-BUTANOL is miscible with water. Irritating to skin, eyes and mucous membranes.

- IATA

PCA Excepted quantities (IATA) : E2
PCA Limited quantities (IATA) : Y341
PCA limited quantity max net quantity (IATA) : 1L
PCA packing instructions (IATA) : 353
PCA max net quantity (IATA) : 5L
CAO packing instructions (IATA) : 364

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CAO max net quantity (IATA) : 60L
Special provisions (IATA) : A3
ERG code (IATA) : 3L

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health, and environmental national regulations specific for the product

Regulatory reference : SANS 10234:2008; SANS 11014:2010; SANS 10228:2012; SANS 10229:2010; SANS 10232(1,2,4), SANS 10231:2018; Occupational Health and Safety Act 85 of 1993; National Road Traffic Act 93 of 1996.

SECTION 16: Other information

Issue date : 14/07/2020

Revision date : 14/07/2025

Full text of H-statements:

H226	Flammable liquid and vapour.
H303	May be harmful if swallowed
H313	May be harmful in contact with skin
H315	Causes skin irritation.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.

SDS South Africa

The data provided in this Safety Data Sheet (SDS) is correct to the best of our knowledge. The data relates to the specific product as named and is intended as a guide to the safe handling of the product in all its facets. The data may no longer be valid if the product is used in any process or in combination with other products. This SDS is not a quality specification nor any form of guarantee.