

SECTION 1: Identification of the substance/mixture and of the supplier/undertaking

1.1. GHS product identifier

Product form : Substance
Trade name : n-Butanol
CAS-No. : 71-36-3
Product code : 3100

1.2. Other means of identification

Other means of identification : 1-Hydroxybutane, Methylolpropane, n-Butan-1-ol, Propylcarbinol, 1-Butanol; Butyl alcohol.

1.3. Recommended use of the chemical and restrictions on use

Recommended use : Industrial uses
Solvents

1.4. Supplier's details

Distributor

Rolfes Chemicals (Pty) Ltd.
Cnr Brammer and Strachan Street,
P.O. Box P.O. Box 14075, Wadeville
1422 Germiston – South Africa Gauteng
T 011 873 0157

1.5. Emergency phone number

Emergency number : 086 111 4753

SECTION 2: Hazard identification

2.1. GHS classification of the substance/mixture and any national or regional information

Classification according to the United Nations GHS

Flammable liquids, Category 3 H226
Full text of H-statements: see section 16
Adverse physicochemical, human health and environmental effects : Flammable liquid and vapour.

2.2. GHS label elements, including precautionary statements

Labelling according to the United Nations GHS

Hazard pictograms (GHS ZA) :



Signal word (GHS-ZA) : Warning
Hazard statements (GHS ZA) : H226 - Flammable liquid and vapour
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 lighting, electrical equipment.
P242 - Use non-sparking tools.
P243 - Take action to prevent static discharges.
P280 - Wear eye protection, protective gloves, protective clothing.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water [or shower].

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P-statements for label (GHS-ZA)	P370+P378 - In case of fire: Use dry extinguishing powder, foam to extinguish. P403+P235 - Store in a well-ventilated place. Keep cool. P501 - Dispose of contents and container to an approved waste disposal plant.
	: 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 lighting, electrical equipment.; P242 - Use non-sparking tools.; P243 - Take action to prevent static discharges.; P280 - Wear eye protection, protective gloves, protective clothing.; IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water [or shower].; P370+P378 - In case of fire: Use dry extinguishing powder, foam to extinguish.; P403+P235 - Store in a well-ventilated place. Keep cool.; P501 - Dispose of contents and container to an approved waste disposal plant.

2.3. Other hazards which do not result in classification or are not covered by the GHS

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substance

Name	: n-Butanol
CAS-No.	: 71-36-3
Product identifiers:	See section 1.1

Name	Product identifier	%	Classification according to the United Nations GHS
Butan-1-ol	CAS-No.: 71-36-3	≤ 100	Flam. Liq. 3, H226

Full text of H-statements: see section 16

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of necessary first aid measures

First-aid measures general	: If you feel unwell, seek medical advice.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Rinse skin with water/shower. Take off immediately all contaminated clothing.
First-aid measures after eye contact	: Rinse eyes with water as a precaution.
First-aid measures after ingestion	: Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms/effect, acute and delayed

Symptoms/effects after inhalation	: Although no appropriate human or animal health effects data are known to exist, this material is expected to be an inhalation hazard.
Symptoms/effects after skin contact	: None under normal conditions.
Symptoms/effects after eye contact	: None under normal conditions.
Symptoms/effects after ingestion	: None under normal conditions.

4.3. Indication of immediate medical attention and special treatment needed, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media	: Do not use a heavy water stream.

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5.2. Specific hazards arising from the chemical

Fire hazard	: Flammable liquid and vapour.
Explosion hazard	: No direct explosion hazard.
Hazardous decomposition products in case of fire	: Toxic fumes may be released.

5.3. Special protective actions for fire-fighters

Firefighting instructions	: Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.
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

General measures	: Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material damage.
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6.1.1. For non-emergency personnel

Protective equipment	: Wear recommended personal protective equipment.
Emergency procedures	: Ventilate spillage area. No open flames, no sparks, and no smoking.

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".
Emergency procedures	: Evacuate unnecessary personnel. Stop leak if safe to do so.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and materials for containment and cleaning up

For containment	: Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak without risks if possible.
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	: Ensure good ventilation of the work station. 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.
Hygiene measures	: Do not eat, drink or smoke when using this product. Always wash hands after handling the product.
Additional hazards when processed	: Not expected to present a significant hazard under anticipated conditions of normal use.

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.
Packaging materials	: Store always product in container of same material as original container.

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Butan-1-ol (71-36-3)	
South Africa - Occupational Exposure Limits (Airborne Pollutants)	
Local name	n-Butyl alcohol (Butan-1-ol)
OEL STEL	150 mg/m ³
	50 ppm
Remark	Sk (Danger of cutaneous absorption)
Regulatory reference	Government Notice No. R 904

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

Hand protection : Protective gloves
Eye protection : Safety glasses
Skin and body protection : Wear suitable protective clothing
Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment
Personal protective equipment symbol(s)



8.4. Exposure limit values for the other components

No additional information available

SECTION 9: Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state : Liquid
Appearance : Liquid.
Colour : Colourless
Odour : alcohol
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 : -89.5 °C
Freezing point : No data available
Boiling point : 118 °C
Flash point : 35 (93 – 85) °C
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Flammability : Flammable liquid and vapour.
Vapour pressure : 6.67 hPa
Vapour pressure at 50°C : No data available
Relative vapour density at 20°C : 2.55
Relative density : No data available
Relative density of saturated gas/air mixture : No data available

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Density	: 0.808 g/cm ³
Relative gas density	: No data available
Solubility	: partly soluble.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Partition coefficient n-octanol/water (Log Kow)	: No data available
Viscosity, kinematic	: 3582000 mm ² /s
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available
Lower explosion limit	: 1.4 vol %
Upper explosion limit	: 11.3 vol %
Physical state	: Liquid
Appearance	: Liquid.

9.2. Data relevant with regard to physical hazard classes (supplemental)

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.

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)	: Not classified
Acute toxicity (dermal)	: Not classified
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	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified

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Reproductive toxicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

n-Butanol (71-36-3)	
Viscosity, kinematic	3582000 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 - Crustacea [1]	1328 mg/l Test organisms (species): Daphnia magna
EC50 96h - Algae [1]	225 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
NOEC (chronic)	4.1 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

12.2. Persistence and degradability

n-Butanol (71-36-3)	
Persistence and degradability	Not rapidly degradable

Butan-1-ol (71-36-3)	
Persistence and degradability	

12.3. Bioaccumulative potential

n-Butanol (71-36-3)	
Bioaccumulative potential	No additional information available

12.4. Mobility in soil

n-Butanol (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

SECTION 13: Disposal Considerations

13.1. Disposal methods

Regional waste regulation	: Disposal must be done according to official regulations.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations	: Disposal must be done according to official regulations.
Product/Packaging disposal recommendations	: Disposal must be done according to official regulations.

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Additional information : Flammable vapours may accumulate in the container. Do not re-use empty containers.

SECTION 14: Transport information

In accordance with SANS / IMDG / IATA

SANS	IMDG	IATA
14.1. UN number		
1120	1120	1120
14.2. UN Proper Shipping Name		
BUTANOLS	BUTANOLS	Butanols
14.3. Transport hazard class(es)		
3	3	3
14.4. Packing group, if applicable		
III	III	III
14.5. Environmental hazards		
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No
No supplementary information available		

14.6. Special precautions for user

SANS

Special provisions (SANS) : 223
Limited quantities (SANS) : 5 L
Limited quantities (SANS) : 5 L
Packagings, large packagings and IBCs Packing instructions (SANS) : P001, IBC03, LP01
Portable tank and bulk containers instructions (SANS) : T2
Portable tank and bulk container special provisions (SANS) : TP1

IMDG

Special provisions (IMDG) : 223
Limited quantities (IMDG) : 5 L
Excepted quantities (IMDG) : E1
Packing instructions (IMDG) : P001, LP01
IBC packing instructions (IMDG) : IBC03
Tank instructions (IMDG) : T2
Tank special provisions (IMDG) : TP1
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) : A
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) : E1

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PCA Limited quantities (IATA)	: Y344
PCA limited quantity max net quantity (IATA)	: 10L
PCA packing instructions (IATA)	: 355
PCA max net quantity (IATA)	: 60L
CAO packing instructions (IATA)	: 366
CAO max net quantity (IATA)	: 220L
Special provisions (IATA)	: A3
ERG code (IATA)	: 3L

14.7. Transport in bulk according to IMO instructions

Not applicable

SECTION 15: Regulatory information

15.1. National regulations

15.1.1. OCCUPATIONAL HEALTH AND SAFETY ACT, 1993

Prohibited Hazardous Chemical Agents

Not regulated

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

No additional information available

SECTION 16: Other information

Issue date	: 09/09/2022
Revision date	: 15/11/2024
Supersedes	: 15/11/2024

Full text of H-statements:

H226	Flammable liquid and vapour
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Safety Data Sheet (SDS), South Africa (HCA)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.