

SAFETY DATA SHEET: n-BUTANOL

MSDS No: TMC-AL-1120

1. IDENTIFICATION OF CHEMICAL PRODUCT

Name of substance: n-Butanol **Chemical Family:** Alcohol

Product Description: Clear, colourless liquid with pungent alcoholic odor

Supplier: Transmare-Chemie (Singapore) Pte Ltd
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Facsimile: (65) 6262 0112
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Website: www.transmare-chemie.com

2. HAZARDS IDENTIFICATION

GHS CLASSIFICATION:

Flammable Liquid	Category 3
Serious Eye Damage / Irritation	Category 1
Acute Toxicity (Oral)	Category 4
Skin Corrosion / Irritation	Category 2
Specific Target Organ Systemic Toxicity (Single Exposure)	Category 3 (Respiratory Irritation)
Specific Target Organ Systemic Toxicity (Single Exposure)	Category 3 (Narcotic Effects)

GHS Label Elements

Symbols:



Signal Word(s): Danger

GHS Hazards Statement

Physical Hazards:

H226: Flammable Liquid and Vapor

Health Hazards:

H318: Causes serious eye damage.
H302: Harmful if swallowed.
H315: Causes skin irritations.
H318: Causes serious eye damage.
H335: May cause respiratory irritation.
H336: May cause drowsiness or dizziness.

Environmental Hazards: N/A

GHS Precautionary Statement

Prevention:

P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking.
P240: Ground/bond container and receiving equipment.
P241: Use explosion-proof electrical/ventilating/lighting equipment.

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- P242: Use only non-sparking tools.
P243: Take precautionary measures against static discharge.
P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
P264: Wash hands thoroughly after handling.
P280: Wear protective gloves/protective clothing/eye protection/face protection.

Response:

- P303+P361+P353: If on Skin (or hair): Remove immediately all contaminated clothing. Rinse skin with water/shower.
P370+P378: In case of fire: Use appropriate media for extinction.
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 victim to fresh air and keep at rest in a position comfortable for breathing.
P332+P313: If Skin Irritation occurs: Get medical advice/attention.
P301+P312+P330: If Swallowed: Immediately call a Poison Center or doctor/physician if you feel unwell. Rinse mouth.

Storage:

- P403+P235: Store in a well-ventilated place. Keep cool.
P405: Store locked up.

Disposal

- P501: Dispose of contents and container to appropriate waste site or reclaimer in accordance with local and national regulations.

Other Hazards Which Do Not Result in Classification

N/A

Aggravated Medical Condition

N/A

3. COMPOSITION/ INFORMATION ON INGREDIENTS		CAS NUMBER: 71-36-3
Chemical Name	CAS Number	Concentration
1-Butanol	71-36-3	>99%

4. FIRST AID MEASURES

Inhalation, Skin Contact, Eye Contact, Ingestion



Medical attention. Emergency shower. Emergency eyewash.

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5. FIRE FIGHTING MEASURE

Appropriate Extinguishing Media:

- CO₂
- Alcohol Resistance Foam
- Dry Chemical
- Water Fog

Inappropriate Extinguishing Media:

- Water Jet

6. ACCIDENTAL RELEASE MEASURES

- Eliminate ignition sources. Prevent liquid enters sewers, water sources, low area.
- Spill with sand, earth. Dilute contained spill with water. Dispose recover material conforms to local regulation.
- Keep public away.

7. HANDLING AND STORAGE

Storage/ Transport Temperature:
Ambient

Loading/ Unloading Temperature:
Ambient

Ensure all equipment is electrically grounded before beginning transfer operations.
Take precautionary measures against static discharge.
Keep away from heat and sources of ignition.
Avoid breathing mists or vapour. Avoid contact with skin.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Control Measures/Ventilation

Use Local exhaust ventilation to control process.
Provide mechanical ventilation of confined spaces.
Use explosion-proof ventilation equipment.

Occupational Exposure Limits (OEL) Values

OSHA PEL: 100ppm (300mg/m³)

ACGIH TLV (8-hour): 20ppm

*Skin Hazard: Skin exposure should be prevented or reduced to control skin absorption.

Personal Protection



Vapor respirator. Gloves. Goggles. Full suit. Footwear.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid
Form/Color:	Clear / Colourless
Odor:	Sweet Pungent
Flash Point (TCC ASTM D93):	38°C
Boiling Point / Range:	117°C
Specific Gravity(25.0/25.0):	N/A
Density (20°C):	0.805g/cm ³
Freezing/Melting Point:	-89°C
Auto-ignition Temperature:	343°C
Evaporation Rate (n-Bu Acetate=1):	N/A
Vapor Pressure (20°C):	4.5mmHg
Viscosity (20°C):	4 cSt
Solubility in Water (20°C):	Partly Soluble – 7.8g/100g
Explosive Limits (in air):	1.4-11.2vol%
Vapor Density (101.3kPa/air = 1):	2 – 3
Molecular Weight:	N/A
Coeff. Of Thermal Expansion (liq):	N/A
Odor Threshold:	N/A
pH:	N/A
Material Hygroscopic:	N/A
n-Octanol/Water Partition Coefficient:	N/A

10. STABILITY AND REACTIVITY

Hazardous Polymerization: Will not occur	Conditions to Avoid Polymerization: N/A
Stability: Stable	Conditions to Avoid Instability: N/A
Materials and Conditions to Avoid:	Oxidizing agents, mineral acids, halogens, and phosphorus trichloride
Hazardous Decomposition Products:	Carbon Dioxide, Carbon Monoxide

11. TOXICOLOGICAL INFORMATION

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Inhalation: Irritation to respiratory tract.
 May cause drowsiness or dizziness
Skin Contact: May cause skin irritation.
Eye Contact: May cause severe damage to the eyes.
Ingestion: Harmful if swallowed.

12. ECOLOGICAL INFORMATION

Environmental Mobility: N/A
Environmental Degradability: N/A
Ecotoxicity and Bioaccumulation: N/A

13. DISPOSAL CONSIDERATIONS

Combine with other materials to indicate another route of disposal.
 Recycle, recover or dispose empty drums through a suitably qualified or licensed contractor.
 Ensure compliance with national and local regulations.
 NOT suitable for disposal by either landfill or via municipal sewers, drains, natural streams or rivers.
 This product is ash less and can be burned directly in appropriate equipment.
 Contact Transmare-Chemie or local Authorities for more information.

14. TRANSPORT INFORMATION

	Land	Sea	Air
Class	3	3	3
Packing Group	III	III	III
UN Number	1120	1120	1120
Transport Document Name	Butanols, Class 3, UN 1120, PG III, (38°C c.c.)	Butanols, Class 3, UN 1120, PG III, (38°C c.c.)	Butanol
Others	Hazchem Code: 2YE	Marine Pollutant: No EmS: F-E,S-D Risk Label: 3	

15. REGULATORY INFORMATION

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Material is hazardous according to GHS Criteria.**REGULATORY STATUS AND APPLICABLE LAWS AND REGULATIONS**

AICS
ENCS
JICS
DSL
PICCS
KECI
IECSC
NZICS
NECI – TAIWAN
MEXICO
SWITZERLAND

16. OTHER INFORMATION**Revision Date on 5th January 2023**

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is to the best of Transmare-Chemie Company's knowledge and believed accurate and reliable as of the date indicated. However, no representation, warranty or guarantee is made as to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use.