



Srithana Perfect

Srithana Perfect CO., LTD
www.srithanaperfect.com

Consistent Supply for Consistent Production

Safety Data Sheet

n-Butanol

1. Identification of the substance or mixture and of the supplier

Trade Name	:	n-Butanol NBA, Butyl Alcohol
Material Uses	:	Solvent for lacquers, thinners, printing inks and adhesives. Raw material for used in the coatings and resins industry.
Manufacturer	:	BASF PETRONAS Chemicals Sdn. Bhd.
Supplier	:	Srithana Perfect Company Limited 440/4-6 Prachacheun Rd. Bangsue Bangkok 10800 Thailand Telephone: +66 2 913 7999 (Auto 20 Lines) Fax: +66 2 586 0990-4
Website	:	www.srithanaperfect.com
E-mail	:	info@srithanaperfect.com

2. Hazards Identification

GHS Classification	:	Flammable liquids : Category 3 Acute Toxicity : Category 4 Skin Irritation : Category 2 Seriuos eye damage : Category 1 Specific target organ toxicity following single exposure : Category 3
Signal word	:	Danger
Health Hazard	:	Vapours may cause drowsiness and dizziness. Irritating to skin, eyes and respiratory system.



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Environmental Hazard : Toxic to aquatic organisms. Toxic effect on fish and plankton. Has the potential to bioaccumulate low.

GHS Pictogram



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

GHS Precautionary statements

Prevention	P210 K	Keep away from heat/sparks/open flames/hot surface and Non-smoking
	P233	Keep container tightly closed.
	P240	Ground/Bond container and receiving equipment.
	P241	Use explosion-proof electrical/ventilating/lighting /equipment
	P242	Use only non-sparking tools.
	P243	Take precautionary measure against static discharge.
	P261	Avoid breathe dust/fume/gas/mist/vapours/spray.
	P264	Wash thoroughly after handling.
	P270	Do not eat, drink or smoke when using this product.
	P271	Use only outdoors or in a well-ventilated area.



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	P280	Wear protective glove/eye protection/face protection.
Response	<u>If on skin</u>	
	P303+P361	Remove/Take off immediately all contaminated clothing.
	+P353	Rinse skin with water/shower.
	P370+P378	In case of fire: Use manufacturer/supplier or the competent authority to specify appropriate media for extinction.
	P302+P352	Wash with plenty of soap and water.
	P362	Take off contaminated clothing and wash before reuse.
	<u>If in eye</u>	
	P305+P351	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	+P338	
	P332+P313	If skin irritation persists: Get medical advice/attention.
	<u>If inhaled</u>	
	P304+P340	Remove victim to fresh air and keep at rest in a position comfortable for breathing.
	<u>If swallowed</u>	
	P301+P312	Call a poison center or doctor/physician if you feel unwell.
Storage	P403+P233	Store in a well-ventilated place. Keep container tightly
	P235	closed. Keep cool.
	P405	Store locked up.
Disposal	P501	Disposal should be in accordance with applicable regional, national, and local laws and regulations. Local regulations may be more stringent than regional or national requirements and must be complied with.



Precautionary Pictograms



3. Composition/Information on ingredients

Chemical Name	:	1-Butanol
Common Name	:	n-Butanol
Synonyms Name	:	Butan-1-ol
CAS No.	:	71-36-3
UN No.	:	1120
Molecular Weight	:	74.12
Chemical Formula	:	C ₄ H ₁₀ O

4. First-aid measures

Inhalation

Remove to fresh air. If the victim has difficulty breathing or tightness of the chest, give 100% oxygen with rescue breathing or CPR as required and transport to the nearest medical facility.

Skin Contact

Remove contaminated clothing. Immediately flush skin with large amounts of water for at least 10 minutes, and follow by washing with soap and water if available

Eye Contact

Immediately flush eyes with large amounts of water for at least 10 minutes while holding eyelids open. Transport to the nearest medical facility for additional treatment.

Ingestion

Immediately make victim drink plenty of water. Do not induce vomiting; Do not eat milk and castor oil, transport to nearest medical facility for additional treatment.



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5. Fire-fighting measures

Clear fire area of all non-emergency personnel.

Extinguishing Media

Water spray or fog, Dry chemical powder, Alcohol-resistant foam and carbon dioxide

Protective Equipment

Wear full protective clothing and self-contained breathing apparatus

Additional Advice

Keep adjacent containers cool by spraying with water

6. Accidental Release Measures

Protective Measures

- Observe all relevant local and international regulations
- Avoid contact with spilled or released material. Immediately remove all contaminated clothing. For guidance on selection of personal protective equipment see chapter 8 in this Material Safety Data Sheet. Shut off leaks. If possible without personal risk. Remove all possible sources of ignition in the surrounding area. Prevent from spreading entering drains, ditches or river by suing sand, earth, or other appropriate barriers
- Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment.

Clean Up Methods

- For small spillage (<200 LT)
: Transfer by mechanical means to a labeled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely.
- For large spillage (>200 LT)
: Transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely.
- Other Information
: Notify Authorities if any exposure to the general public or the environment occurs or is likely to occur. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.



7. Handling And Storage

Handling

Avoid contact with skin, eyes and clothing. Do not breathe vapors. Extinguish any naked flame. Remove ignition sources. Avoid sparks. Do not smoke. The vapor is heavier than air spreads along the ground and distant ignition is possible. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Do not use compressed air for filling, discharging, or handling operations. Handle and open container with care in well-ventilated areas. Do not empty into drains.

Storage

Must be stored in a diked (bunded) well-ventilated area, away from sunlight, ignition sources and other sources of heat. Bulk storage tanks should be diked (bunded). Keep away from aerosols, flammable, oxidizing agents, corrosives. Storage Temperature: Ambient.

Product Transfer

Keep containers closed when not in use. Do not use compressed air for filling, discharging, or handling operations. If positive displacement pumps are used, these must be fitted with a non-integral pressure relief valve. Ensure electrical continuity by bonding and grounding (earthing) all equipment.

Recommended Materials

For containers or container linings, use mild steel, stainless steel.

Additional advice

Containers even those that have been emptied, can obtain explosive vapors. Do not cut, grind, weld or perform similar operations on or near containers.

8. Exposure Controls and Personal Protection

Engineering Controls Workplace

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor below their respective threshold limit value.

Respiratory Protection

Vapor respirator. Be sure to use an approved/certified respirator when ventilation is inadequate

Hand Protection

Butyl rubber gloves, Natural rubber gloves, Neoprene rubber gloves, Nitrile rubber gloves



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Eye Protection
Chemical splash goggles.

Protective Clothing
Use protective clothing which is chemical resistant to this material. Safety shoes and boots should also be chemical resistant.

9. Physical and Chemical Properties

Appearance	:	Clear liquid.
Odour	:	Ethanol - like odour.
pH Value	:	No data available.
Boiling Point (°C)	:	117 °C
Melting Point (°C)	:	-89.5 °C
Flash Point	:	36 °C
Evaporating Rat	:	0.5 (n-Butyl Acetate = 1)
Lower/Upper Flammability Limits	:	1.4 - 11.2 %V
Vapour Pressure (mbar)	:	7.3 mbar @ 20 °C
Specific Gravity	:	0.810 @ 20 °C (ASTM D4052)
Density (g/cm ³)	:	0.809 -0.812 @ 20 °C (ASTM D4052)
Vapour Density	:	2.6 @ 20 °C (air = 1)
Solubility in Water	:	7.7 g/100 ml. @ 20 °C (ASTM D1722)
Auto Ignition Temperature	:	343 °C

10. Stability and Reactivity

Stability	:	Stable under normal conditions.
Conditions to Avoid	:	Heat, flame, spark and other ignition sources.
Materials to Avoid	:	Strong oxidizing agents, alkaline agent, and strong reducing agent.
Hazardous Decomposition Products	:	Thermal decomposition is highly dependent on condition. Carbon monoxide, carbon dioxide and other organic compounds will be evolved when this material undergoes



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combustion or thermal or oxidative degradation. May form explosive peroxides.

11. Toxicological Information

Acute Toxicity

LD ₅₀ Acute oral toxicity	:	790 mg/kg (rat)
LD ₅₀ Acute dermal toxicity	:	3,400 mg/kg (rabbit)
Toxicity		
LC ₅₀ Acute Inhalation	:	8,000 mg/l/4 hours, (rat)

Skin Irritation

Irritating to skin. Prolonged/repeated exposure may cause defatting of the skin which can lead to dermatitis

Eye Irritation

Irritating to eyes

Respiratory Irritation

Inhalation of vapors or mists may cause irritation to the respiratory system and may cause drowsiness and dizziness.

Carcinogenicity

No data available.

12. Ecological Information

Acute Toxicity

Fish	:	Low toxicity : LC ₅₀ 1,730 mg/l/96 h.
	:	Low toxicity : LC ₅₀ 1,983 mg/l/48 h.

Mobility

: Dissolves in water. If product enters soil, it will highly mobile and may contaminate ground water.

Persistence / degradability

: Readily biodegradable.

Bio-accumulation

: Not expected to bioaccumulate significantly



13. Disposal Considerations

Material Disposal :

Recover or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations.

Container Disposal

Drain container thoroughly. After draining, vent in a safe place away from sparks and fire. Residues may cause an explosion hazard. Do not puncture, cut or weld uncleaned drums. Send to drum recoverer or metal reclaimer.

Local legislation

Disposal should be in accordance with applicable regional, national, and local laws and regulations. Local regulations may be more stringent than regional or national requirements and must be complied with.

14. Transport Information

Road/Rail Transport ADR/RID

UN. Number : 1120
Class : 3
Packing Group : III
Hazard Symbol : Flammable liquid
Proper Shipping Name : n-Butanol

Maritime Transport IMO

UN. Number : 1120
Class : 3
Packing Group : III
Hazard Symbol : Flammable liquid
Proper Shipping Name : n-Butanol
Maritime Pollutant : No



Air Transport IATA/ICAO

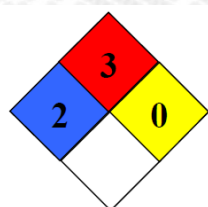
UN.Number : 1120
Class : 3
Packing Group : III
Hazard Symbol : Flammable liquid
Proper Shipping Name : n-Butanol

15. Regulatory Information

EC Label Name : n-Butanol
EC Classification : Flammable
EINECS (EC) : 200-751-6
EC Annex I Number : 603-004-00-6
MITI (Japan) : RO 1400000

16. Other Information

National Fire Protection
Association (USA)



- Health
- Fire Hazard
- Reactivity
- Specific Hazard

SDS Distribution :

The information in this document should be made available to all who may handle the product.

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

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