

Safety Data Sheet

n-BUTANOL

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1. Identification

Product identifier used on the label

n-BUTANOL

Recommended use of the chemical and restriction on use

Recommended use*: solvent(s)

Recommended use*: solvent(s); for industrial use only

Unsuitable for use: Not intended for sale to or use by the general public.

* The "Recommended use" identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:

BASF Mexicana S.A. de C.V.
Av. Insurgentes Sur 975
Col. CD. De Los Deportes,
C.P. 03710 Ciudad de México
MÉXICO

Telephone: +52 55 5325 2600

Emergency telephone number

24 Hour Emergency Response Information

SETIQ: 1800-00-214-(Rep. Mexicana) or 55-59-15-88 (CDMX)

Telephone: +1-800-849-5204 or +1-833-229-1000

Other means of identification

Molecular formula:	C(4)H(10)O
Synonyms:	1-Butanol
	n-Butanol
	n-Butyl Alcohol

2. Hazards Identification

According to Regulation NOM-018-STPS-2015

Classification of the product

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Flam. Liq.	3	Flammable liquids
Skin Irrit.	2	Skin irritation
Eye Dam.	1	Serious eye damage
STOT SE	3 (May cause drowsiness and dizziness.)	Specific target organ toxicity — single exposure
STOT SE	3 (irritating to respiratory system)	Specific target organ toxicity — single exposure

Label elements

Pictogram:



Signal Word:
Danger

Hazard Statement:

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

Precautionary Statements (Prevention):

P280	Wear protective gloves and eye protection or face protection.
P271	Use only outdoors or in a well-ventilated area.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261	Avoid breathing mist or vapour or spray.
P243	Take action to prevent static discharges.
P241	Use explosion-proof electrical, ventilating and lighting equipment.
P264	Wash contaminated body parts thoroughly after handling.
P240	Ground and bond container and receiving equipment.
P242	Use non-sparking tools.

Precautionary Statements (Response):

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 physician.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P370 + P378	In case of fire: Use alcohol-resistant foam, carbon dioxide, dry powder or water spray for extinction.

Precautionary Statements (Storage):

P233	Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.

Precautionary Statements (Disposal):

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P501

Dispose of contents/container in accordance with local regulations.

Hazards not otherwise classified

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture. See section 12 - Results of PBT and vPvB assessment.

3. Composition / Information on Ingredients

According to Regulation NOM-018-STPS-2015

| n-butanol

| CAS Number: 71-36-3
Content (W/W): $\geq 99.8 - < 100.0\%$
Synonym: 1-Butanol; n-Butanol

Isobutanol

CAS Number: 78-83-1
Content (W/W): $> 0.0 - \leq 0.1\%$
Synonym: 2-Methyl-1-propanol; Isobutanol

4. First-Aid Measures

Description of first aid measures

General advice:

First aid personnel should pay attention to their own safety. If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position). Immediately remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air, seek medical attention. Immediately administer a corticosteroid from a controlled/metered dose inhaler.

If on skin:

Immediately wash thoroughly with plenty of water, apply sterile dressings, consult a skin specialist.

If in eyes:

Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing. Seek medical attention.

If swallowed:

Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms: Overexposure may cause:, headache, dizziness, coordination disorder, coma, lacrimation, loss of hearing

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Hazards: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11. (Further) symptoms and / or effects are not known so far

Indication of any immediate medical attention and special treatment needed

Note to physician

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
dry powder, water spray, carbon dioxide, alcohol-resistant foam

Unsuitable extinguishing media for safety reasons:
water jet

Additional information:
Use extinguishing measures to suit surroundings.

Special hazards arising from the substance or mixture

Hazards during fire-fighting:
Flammable liquid Cool endangered containers with water-spray. See SDS section 7 - Handling and storage.

Advice for fire-fighters

Protective equipment for fire-fighting:
Wear a self-contained breathing apparatus. Special protective equipment for firefighters

Further information:

Evacuate area of all unnecessary personnel. Fight fire from maximum distance.

Extend fire extinguishing measures to the surroundings. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

Impact Sensitivity:

Remarks: Based on the chemical structure there is no shock-sensitivity.

6. Accidental release measures

Further accidental release measures:
High risk of slipping due to leakage/spillage of product.

Release of substance/product can cause fire or explosion. Shut off or stop source of leak. Shut off or stop released substance/product under safe conditions.

Pack in tightly closed containers for disposal.

Personal precautions, protective equipment and emergency procedures

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Handle in accordance with good industrial hygiene and safety practice.

Avoid all sources of ignition: heat, sparks, open flame. Use antistatic tools.

Environmental precautions

Discharge into the environment must be avoided.

Methods and material for containment and cleaning up

Pick up with suitable appliance and dispose of. Spills should be contained, solidified, and placed in suitable containers for disposal. Dispose of absorbed material in accordance with regulations.

7. Handling and Storage

Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice.

Protection against fire and explosion:

Avoid all sources of ignition: heat, sparks, open flame. Ground all transfer equipment properly to prevent electrostatic discharge.

Conditions for safe storage, including any incompatibilities

No applicable information available.

Further information on storage conditions: Keep container tightly closed and dry; store in a cool place.

Keep away from sources of ignition - No smoking. Keep container tightly closed in a cool, well-ventilated place. Storage containers should be grounded. Do not use or store in iron, copper or aluminium containers or equipment.

8. Exposure Controls/Personal Protection

Components with occupational exposure limits

n-butanol	OEL, MX:	TWA value 20 ppm ;
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Isobutanol	OEL, MX:	TWA value 50 ppm ;
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Advice on system design:

Provide local exhaust ventilation to maintain recommended P.E.L.

Personal protective equipment

Respiratory protection:

Wear respiratory protection if ventilation is inadequate. Gas filter for gases/vapours of organic compounds (boiling point >65 °C, e. g. EN 14387 Type A)

Hand protection:

Chemical resistant protective gloves (EN ISO 374-1), Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN ISO 374-1);, butyl rubber (butyl) - 0.7 mm coating thickness, nitrile rubber (NBR) - 0.4 mm coating thickness, Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to

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many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing., Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:

Tightly fitting safety goggles (splash goggles) (e.g. EN 166)

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

General safety and hygiene measures:

Work place should be equipped with a shower and an eye wash. Avoid inhalation of vapours/mists. Wear protective clothing as necessary to prevent contact.

9. Physical and Chemical Properties

Physical state:	liquid	
Form:	liquid	
Odour:	alcohol-like	
Odour threshold:	not determined	
Colour:	colourless	
pH value:	4.6 - 5.0 (100 %(m))	
Melting point:	< -90 °C	(ASTM D97)
Freezing point:	No data available.	
Boiling point:	119 °C (1,013 hPa)	(OECD Guideline 103)
Boiling range:	No data available.	
Sublimation point:	No applicable information available.	
Flash point:	35 °C	(ISO 2719, closed cup)
Flammability:	Flammable.	(derived from flash point)
Lower explosion limit:	For liquids not relevant for classification and labelling. The lower explosion point may be 5 - 15 °C below the flash point.	
Upper explosion limit:	For liquids not relevant for classification and labelling.	
Heat of Combustion:	36.11 kJ/g	
Autoignition:	355 °C	(DIN 51794)
Vapour pressure:	< 10 hPa (20 °C)	
Density:	0.8095 g/cm3 (20 °C) 0.7824 g/cm3 (55 °C)	(ASTM D4052)
Relative density:	0.8095 (20 °C)	
Relative vapour density:	2.55 (20 °C) Heavier than air.	(calculated)

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Partitioning coefficient n-octanol/water (log Pow):	1 (25 °C)	(OECD Guideline 117)
Self-ignition temperature:	20 °C	
	Based on its structural properties the product is not classified as self-igniting.	
Thermal decomposition:	No decomposition if stored and handled as prescribed/indicated.	
Viscosity, dynamic:	2.947 mPa.s (20 °C)	
Viscosity, kinematic:	No data available.	
Solubility in water:	66 g/l (20 °C)	
Solubility (quantitative):	No data available.	
Solubility (qualitative):	soluble	
	solvent(s): organic solvents,	
Molecular weight:	74.12 g/mol	
Evaporation rate:	Value can be approximated from Henry's Law Constant or vapor pressure.	

Particle characteristics

Particle size distribution: The substance / product is marketed or used in a non solid or granular form.

10. Stability and Reactivity

Reactivity

Corrosion to metals:
No corrosive effect on metal.

Oxidizing properties:
Based on its structural properties the product is not classified as oxidizing.

Formation of flammable gases:	Remarks:	Forms no flammable gases in the presence of water.
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Chemical stability

The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions

Reacts with strong oxidizing agents.

Conditions to avoid

Avoid all sources of ignition: heat, sparks, open flame.

Incompatible materials

strong oxidizing agents
strong acids, halogens, copper alloys, aluminum compounds

Hazardous decomposition products

Decomposition products:

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Hazardous decomposition products: No hazardous decomposition products if stored and handled as prescribed/indicated.

Thermal decomposition:
No decomposition if stored and handled as prescribed/indicated.

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity

Assessment of acute toxicity: Of low toxicity after short-term skin contact. Virtually nontoxic by inhalation. Of low toxicity after single ingestion. The European Union (EU) has classified this substance as 'harmful' after oral exposure.

If used as intended, this product is not expected to present a physical or health hazard.

Oral

Type of value: LD50

Species: rat

Value: 2,292 mg/kg (OECD Guideline 401)

The European Union (EU) has classified this substance as 'harmful'.

Inhalation

Type of value: LC50

Species: rat (male/female)

Value: > 17.76 mg/l (OECD Guideline 403)

Exposure time: 4 h

The vapour was tested.

Highest concentration technically achievable. No mortality was observed.

Type of value: LC50

Species: rat (male)

Value: > 24 mg/l (other)

Exposure time: 4 h

The vapour was tested.

No mortality was observed.

Dermal

Type of value: LD50

Species: rabbit

Value: 3,430 mg/kg (OECD Guideline 402)

Assessment other acute effects

Assessment of STOT single:

Possible narcotic effects (drowsiness or dizziness). Causes temporary irritation of the respiratory tract.

Irritation / corrosion

Assessment of irritating effects: Skin contact causes irritation. Risk of serious damage to eyes.

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Skin

Species: rabbit
Result: Irritant.
Method: BASF-Test

Eye

Species: rabbit
Result: irreversible damage
Method: OECD Guideline 405

Sensitization

Assessment of sensitization: Skin sensitizing effects were not observed in animal studies.

Mouse Local Lymph Node Assay (LLNA)

Species: mouse
Result: Non-sensitizing.
Method: similar to OECD guideline 429

Aspiration Hazard

Some authorities consider isobutyl alcohol, n-primary alcohols and ketones with C3-C13 as "May be harmful if swallowed and enters airways"

Chronic Toxicity/Effects

Repeated dose toxicity

Assessment of repeated dose toxicity: No substance-specific organotoxicity was observed after repeated administration to animals.
Repeated oral uptake of the substance did not cause substance-related effects.

Genetic toxicity

Assessment of mutagenicity: The substance was not mutagenic in bacteria. The substance was not genotoxic in mammalian cell culture. The substance was not genotoxic in a test with mammals.

Carcinogenicity

Assessment of carcinogenicity: No reliable data was available concerning carcinogenic activity. The chemical structure does not suggest a specific alert for such an effect.

Reproductive toxicity

Assessment of reproduction toxicity: The results of animal studies gave no indication of a fertility impairing effect.

Teratogenicity

Assessment of teratogenicity: Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals.
The potential to cause toxicity to development cannot be excluded when given in high doses.

Experiences in humans

High concentrations have a narcotizing effect. Irritates the respiratory organs.

12. Ecological Information

Toxicity

Aquatic toxicity

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Assessment of aquatic toxicity:

There is a high probability that the product is not acutely harmful to aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Toxicity to fish

LC50 (96 h) 1,376 mg/l, Pimephales promelas (OECD 203; ISO 7346; 92/69/EWG, C.1, static)

Aquatic invertebrates

EC50 (48 h) 1,328 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)

Aquatic plants

EC50 (96 h) 225 mg/l (growth rate), Pseudokirchneriella subcapitata (OECD Guideline 201, static)

No observed effect concentration (96 h) 129 mg/l (growth rate), Pseudokirchneriella subcapitata (OECD Guideline 201, static)

Chronic toxicity to fish

No data available.

Chronic toxicity to aquatic invertebrates

No observed effect concentration (21 d) 4.1 mg/l, Daphnia magna (OECD Guideline 211, semistatic)

Assessment of terrestrial toxicity

No data available.

Microorganisms/Effect on activated sludge

Toxicity to microorganisms

DIN 38412 Part 8 aerobic
bacterium/EC10 (17 h): 2,476 mg/l

Persistence and degradability

Assessment biodegradation and elimination (H₂O)

Readily biodegradable (according to OECD criteria).

Elimination information

92 % BOD of the ThOD (20 d) (APHA 'Standard Methods', No. 219, 1971) (aerobic, activated sludge, domestic, non-adapted)
Literature data.

Assessment of stability in water

No data available.

Information on Stability in Water (Hydrolysis)

No data available.

Bioaccumulative potential

Assessment bioaccumulation potential

Significant accumulation in organisms is not to be expected.

Bioaccumulation potential

No data available.

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Mobility in soil

Assessment transport between environmental compartments

The substance will not evaporate into the atmosphere from the water surface.

Adsorption to solid soil phase is not expected.

Additional information

Adsorbable organically-bound halogen(AOX):

This product contains no organically-bound halogen.

Other ecotoxicological advice:

The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

13. Disposal considerations

Waste disposal of substance:

Dispose of in accordance with national, state and local regulations.

Container disposal:

Disposal must be made according to official regulations.

14. Transport Information

Land transport

TDG

Hazard class:	3
Packing group:	III
ID number:	UN 1120
Hazard label:	3
Proper shipping name:	BUTANOLS

Sea transport

IMDG

Hazard class:	3
Packing group:	III
ID number:	UN 1120
Hazard label:	3
Marine pollutant:	NO
Proper shipping name:	BUTANOLS

Air transport

IATA/ICAO

Hazard class:	3
Packing group:	III
ID number:	UN 1120
Hazard label:	3
Proper shipping name:	BUTANOLS

Further information

To products mentioned in chapter 18 of the IBC-Code, no ship type is assigned within this list.

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15. Regulatory Information

Federal Regulations

Not applicable

NFPA Hazard codes:

Health: 2 Fire: 3 Reactivity: 0 Special:

HMIS III rating

Health: 2 Flammability: 3 Physical hazard: 0

Assessment of the hazard classes according to UN GHS criteria (most recent version):

Flam. Liq.	3	Flammable liquids
Acute Tox.	5 (dermal)	Acute toxicity
Skin Irrit.	2	Skin irritation
STOT SE	3 (irritating to respiratory system)	Specific target organ toxicity — single exposure
STOT SE	3 (May cause drowsiness and dizziness.)	Specific target organ toxicity — single exposure
Acute Tox.	5 (oral)	Acute toxicity
Eye Dam.	1	Serious eye damage

16. Other Information

SDS Prepared by:

BASF NA Product Regulations
SDS Prepared on: 2025/10/13

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

This information is considered accurate but is not exhaustive and shall only be used as a guideline based on current knowledge of the chemical substance or mixture. Safety precautions suitable for the product must be applied.

IMPORTANT: WHILE THE DESCRIPTIONS, DESIGNS, DATA AND INFORMATION CONTAINED HEREIN ARE PRESENTED IN GOOD FAITH AND BELIEVED TO BE ACCURATE, IT IS PROVIDED FOR YOUR GUIDANCE ONLY. BECAUSE MANY FACTORS MAY AFFECT PROCESSING OR APPLICATION/USE, WE RECOMMEND THAT YOU MAKE TESTS TO DETERMINE THE SUITABILITY OF A PRODUCT FOR YOUR PARTICULAR PURPOSE PRIOR

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