

# MATERIAL SAFETY DATA SHEET (SDS/MSDS)

**n-BUTANOL 99.5% AR**

CAS-No.: 71-36-3

Product Code: 00552

Molecular Formula:  $C_4H_{10}O$

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## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

Product form	:	Substance
Trade name	:	n-butanol 99.5% AR
EC-No.	:	200-751-6
CAS No	:	71-36-3
Synonyms	:	Butyl alcohol

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

#### 1.2.1. Relevant identified uses

Use of the substance/mixture : Laboratory chemicals, Manufacture of substances

#### 1.2.2. Uses advised against

No additional information available

### 1.3. Details of the supplier of the safety data sheet

Company : Chemnovo Synthesis Pvt Ltd.  
N-226 Near Kumbhavali Naka  
Tarapur MIDC, Boisar-401 506  
Palghar, Maharashtra  
Telephone : +91 7400096089  
Email: export@chemnovo.in

### 1.4. Emergency telephone number

Emergency number : + 91 7400096089 (9:00am - 6:00 pm)

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Serious eye damage/eye irritation, Category 1	H318
Flammable liquids, Category 3	H226
Acute toxicity (oral), Category 4	H302
Skin corrosion/irritation, Category 2	H315
Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation	H335
Specific target organ toxicity – Single exposure, Category 3, Narcosis	H336

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Full text of H statements : see section 16

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Xn; R22

Xi; R41

Xi; R37/38

R10

R67

Full text of R-phrases: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

## 2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS05

GHS02

GHS07

Signal word (CLP) :

Danger

Hazard statements (CLP) :

H226 - Flammable liquid and vapour

H302 - Harmful if swallowed

H315 - Causes skin irritation

H318 - Causes serious eye damage

H335 - May cause respiratory irritation

H336 - May cause drowsiness or dizziness

Precautionary statements (CLP) :

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P302+P352 - IF ON SKIN: Wash with plenty of soap and water

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing

P313 - Get medical advice/attention

## 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

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### 3.1. Substance

Name	:	n-butanol 99.5% AR
CAS No	:	71-36-3
EC-No.	:	200-751-6

Full text of R- and H-statements: see section 16

### 3.2. Mixture

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures after inhalation	:	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
First-aid measures after skin contact	:	Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention. Specific treatment (see ... on this label).
First-aid measures after eye contact	:	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.
First-aid measures after ingestion	:	Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.

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

Symptoms/injuries after inhalation	:	May cause respiratory irritation. May cause drowsiness or dizziness.
Symptoms/injuries after skin contact	:	Causes skin irritation.
Symptoms/injuries after eye contact	:	Causes serious eye damage.
Symptoms/injuries after ingestion	:	Swallowing a small quantity of this material will result in serious health hazard.

### 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	:	dry chemical powder, alcohol-resistant foam, carbon dioxide (Co2).
Unsuitable extinguishing media	:	Do not use a heavy water stream.

### 5.2. Special hazards arising from the substance or mixture

Fire hazard	:	Flammable liquid and vapour.
Explosion hazard	:	May form flammable/explosive vapour-air mixture.

### 5.3. Advice for firefighter

Protection during firefighting	:	Do not attempt to take action without suitable protective
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equipment.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : Remove ignition sources. Use special care to avoid static electric charges. No open flames. No smoking.

##### 6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

##### 6.1.2. For emergency responders

Protective equipment : Avoid breathing dust/fume/gas/mist/vapours/spray. Use personal protective equipment as required

Emergency procedures : Ventilate area

#### 6.2. Environmental precautions

Avoid release to the environment.

#### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Collect spillage. On land, sweep or shovel into suitable containers. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible.

#### 6.4. Reference to other sections

No additional information available

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Additional hazards when processed : Handle empty containers with care because residual vapours are flammable.

Precautions for safe handling : No naked lights. No smoking. Take precautionary measures against static discharge. Use only non-sparking tools. Avoid breathing dust/fume/gas/mist/vapours/spray. Use only outdoors or in a well-ventilated area.

Hygiene measures : Do not eat, drink or smoke when using this product. Wash ... thoroughly after handling

#### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment.

Storage conditions : Keep container tightly closed. Store in original container. Store in a dry place.

Incompatible materials : Heat sources.

#### 7.3. Specific end use(s)

No additional information available

### SECTION 8: Exposure controls/personal protection

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### 8.1. Control parameters

No additional information available

### 8.2. Exposure controls

Hand protection	:	protective gloves
Eye protection	:	Chemical goggles or safety glasses
Skin and body protection	:	Wear suitable protective clothing
Respiratory protection	:	Where exposure through inhalation may occur from use, respiratory protection equipment is recommended

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Molecular mass	:	74.12 g/mol
Colour	:	Clear Colorless.
Odour	:	strong characteristic mildly alcoholic odor.
Odour threshold	:	No data available
pH	:	No data available
Relative evaporation rate (butylacetate=1)	:	0.46
Melting point	:	-90 °C
Freezing point	:	No data available
Boiling point	:	116 - 118
Flash point	:	35 °C
Auto-ignition temperature	:	3430 °C
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	Flammable Flammable liquid and vapour
Vapour pressure	:	5 hPa at 20 °C
Relative vapour density at 20 °C	:	2.56
Relative density	:	0.81
Density	:	0.81 g/cm <sup>3</sup>
Solubility	:	Water: Soluble
Log Pow	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosive properties	:	No data available
Oxidising properties	:	No data available
Explosive limits	:	0.014 - 0.112 vol %

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

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### 10.2. Chemical stability

Flammable liquid and vapour. May form flammable/explosive vapour-air mixture.

### 10.3. Possibility of hazardous reactions

No additional information available

### 10.4. Conditions to avoid

Open flame. Direct sunlight. Heat. Sparks. Overheating.

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

May release flammable gases.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity	:	Oral: Harmful if swallowed.
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
Specific target organ toxicity (single exposure)	:	May cause respiratory irritation. May cause drowsiness or dizziness.
Specific target organ toxicity (repeated exposure)	:	Not classified
Aspiration hazard	:	Not classified
Potential adverse human health effects and symptoms	:	Harmful if swallowed.

## SECTION 12: Ecological information

### 12.1. Toxicity

No additional information available

### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

No additional information available

### 12.4. Mobility in soil

No additional information available

### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Other adverse effects

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No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Product/Packaging disposal recommendations	:	Dispose of contents/container to ...
Additional information	:	Handle empty containers with care because residual vapours are flammable.

## SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / AND

### 14.1. UN number

UN-No. (ADR)	:	1120
UN-No. (IMDG)	:	1120
UN-No.(IATA)	:	1120
UN-No.(AND)	:	1120
UN-No. (RID)	:	1120

### 14.2. UN proper shipping name

Proper Shipping Name (ADR)	:	BUTANOLS
Proper Shipping Name (IMDG)	:	BUTANOLS
Proper Shipping Name (IATA)	:	BUTANOLS
Proper Shipping Name (ADN)	:	BUTANOLS
Proper Shipping Name (RID)	:	BUTANOLS
Transport document description (ADR):	:	UN 1120 BUTANOLS, 3, III, (D/E)
Transport document description (IMDG)	:	UN 1120 BUTANOLS, 3, III
Transport document description (IATA):	:	UN 1120 BUTANOLS, 3, III
Transport document description (ADN):	:	UN 1120 BUTANOLS, 3, III
Transport document description (RID):	:	UN 1120 BUTANOLS, 3, III

### 14.3. Transport hazard class(es)

ADR	:	
Transport hazard class(es) (ADR)	:	3
Danger labels (ADR)	:	3
	:	



IMDG	:	
Transport hazard class(es) (IMDG)	:	3

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Danger labels (IMDG) : 3



IATA

Transport hazard class(es) (IATA) : 3

Hazard labels (IATA) : 3



AND

Transport hazard class(es) (ADN) : 3

Danger labels (AND) : 3



RID

Transport hazard class(es) (RID) : 3

Danger labels (RID) : 3

**14.4. Packing group**

Packing group (ADR) : III

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Packing group (IMDG)	:	III
Packing group (IATA)	:	III
Packing group (ADN)	:	III
Packing group (RID)	:	III

**14.5. Environmental hazards**

Dangerous for the environment	:	No
Marine pollutant	:	No
Other information	:	No supplementary information available

**14.6. Special precautions for user****- Overland transport**

Classification code (ADR)	:	F1
Limited quantities (ADR)	:	5L
Excepted quantities (ADR)	:	E1
Packing instructions (ADR)	:	P001, IBC03, LP01, R001
Mixed packing provisions (ADR)	:	Mp19
Portable tank and bulk container instructions (ADR)	:	T2
Portable tank and bulk container special provisions (ADR)	:	Tp1
Tank code (ADR)	:	LGBF
Vehicle for tank carriage	:	FL
Transport category (ADR)	:	3
Special provisions for carriage - Packages (ADR)	:	V12
Special provisions for carriage - Operation (ADR)	:	S2
Hazard identification number (Kemler No.)	:	30
Orange plates	:	

**30****1120**

Tunnel restriction code (ADR)	:	D/E
EAC code	:	•2YE
<b>- Transport by sea</b>		
Special provision (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

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EmS-No. (Fire)	:	F-E
EmS-No. (Spillage)	:	S-D
Stowage category (IMDG)	:	A
MFAG-No	:	129
- Air transport		
PCA Excepted quantities (IATA)	:	E1
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 provision (IATA)	:	A3
ERG code (IATA)	:	3L
- Inland waterway transport		
Classification code (ADN)	:	F1
Limited quantities (ADN)	:	5 L
Excepted quantities (ADN)	:	E1
Carriage permitted (AND)	:	T
Equipment required (ADN)	:	PP, EX, A
Ventilation (ADN)	:	Ve01
Number of blue cones/lights (ADN)	:	0
- Rail transport		
Classification code (RID)	:	F1
Limited quantities (RID)	:	5L
Excepted quantities (RID)	:	E1
Packing instructions (RID)	:	P001, IBC03, LP01, R001
Mixed packing provisions (RID)	:	Mp19
Portable tank and bulk container instructions (RID)	:	T2
Portable tank and bulk container special provisions (RID)	:	Tp1
Tank codes for RID tanks (RID)	:	LGBF
Transport category (RID)	:	3
Special provisions for carriage – Packages (RID)	:	W12
Colis express (express parcels) (RID)	:	Ce4
Hazard identification number (RID)	:	30

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

Not applicable

### SECTION 15: Regulatory information

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### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

n-BUTANOL 99.5% AR is not on the REACH Candidate List

n-BUTANOL 99.5% AR is not on the REACH Annex XIV List

#### 15.1.2. National regulations

##### Germany

AwSV/VwVwS Annex reference : Water hazard class (WGK) 1, slightly hazardous to water  
(Classification according to VwVwS, Annex 2; WGK No 39)

12th Ordinance Implementing the Federal

Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

##### Denmark

Class for fire hazard : Class II-1

Store unit : 5 liter

Classification remarks : R10 <H226;H302;H315;H318;H335;H336>; Emergency management  
guidelines for the storage of flammable liquids must be followed  
Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the  
product

### 15.2. Chemical safety assessment

No additional information available

## SECTION 16: Other information

Full text of R-, H- and EUH-statements:

Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Flam. Liq. 3	Flammable liquids, Category 3
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Narcosis
H226	Flammable liquid and vapour
H302	Harmful if swallowed
H315	Causes skin irritation
H318	Causes serious eye damage
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
R10	Flammable

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R22	Harmful if swallowed
R37/38	Irritating to respiratory system and skin
R41	Risk of serious damage to eyes
R67	Vapours may cause drowsiness and dizziness
Xi	Irritant
Xn	Harmful

**Further information**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Chemnovo Synthesis Pvt Ltd. and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.chemnovo.in](http://www.chemnovo.in) for additional terms and conditions of sale.

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