

# MATERIAL SAFETY DATA SHEET

Version:02

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PRODUCT NAME: 1-BUTANOL (BUTYL ALCOHOL) CAS Number: 71-36-3

1. IDENTIFICATION:

**Product Code** : 90090, 91522, 91662, 91809, 94055, 98126, 91170

Company Name : ADVENT CHEMBIO PRIVATE LIMITED

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#### 2. HAZARDS IDENTIFICATION:

**Hazard classification** 

**Physical hazards** 

Flammable liquids : Category 3

**Health hazards** 

Acute toxicity, Oral : Category 4

Skin irritation : Category 2

Serious eye damage/eye

irritation

Category 1

Specific target organ

toxicity - single exposure

Category 3

Labels elements :

Hazard symbol :



Signal word : Danger

**Hazard statement** Highly flammable liquid and vapor.

Causes serious eye irritation. May cause drowsiness or dizziness.

Harmful if swallowed.

May cause respiratory irritation.

Causes skin irritation.

**Precautionary statement** 

**Prevention**: Obtain special instructions before use.

Do not breathe dust/ fume/ gas/ mist/ vapors/ spray. Do not handle until all safety

precautions have been read and understood.

Wear protective gloves/ protective clothing/ eye protection/ face protection. Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.

Keep container tightly closed. Ground/bond container and receiving equipment.



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Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools. Take precautionary measures against static discharge.

**Response** : IF exposed or concerned: Get medical advice/ attention.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/

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shower.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if

present and easy to do. Continue rinsing.

IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

Storage : Store in a dry & well-ventilated place. Keep container tightly closed. Containers which are

opened must be carefully resealed and kept upright to prevent leakage.

Disposal : Dispose of contents/container to an appropriate treatment and disposal facility in

accordance with applicable laws and regulations, and product characteristics at time of

disposal.

Other hazards which do not : result in GHS classification

Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or

explosion.

## 3. COMPOSITION/INFORMATION ON INGRADIENTS:

Ingredient	CAS Number	Percent	Hazardous
1-Butanol	71-36-3	99 - 100%	Yes

## 4. FIRST AID MEASURES:

General information : Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in

attendance.

Ingestion Call a physician or poison control center immediately. Rinse mouth. Do NOT induce

: vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the

lungs.

Move to fresh air. Call a physician or poison control center immediately. If breathing stops,

**Inhalation**: provide artificial respiration. If breathing is difficult, give oxygen.

Get medical attention if symptoms persist.

**Skin contact** Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact

lenses. Get medical attention.

**Eye contact** Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact

lenses. Get medical attention.

Most important

symptoms/effects, acute

and delayed

Toxic if inhaled. Toxic if swallowed. Toxic in contact with skin. Irritating to eyes, respiratory system and skin.

Indication of immediate

medical attention and special treatment needed

: No data available.

#### 5. FIRE FIGHTING MEASURES:

General information

: Flammable liquid and vapor.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing : Water spray, foam, dry powder or carbon dioxide.



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media

Unsuitable extinguishing

Avoid water in straight hose stream; will scatter and spread fire.

Specific hazards arising from the chemical

Vapors may cause a flash fire or ignite explosively. Vapors may travel considerable distance to a source of ignition and flash back. Prevent buildup of vapors or gases to explosive concentrations. Vapor from the solvent may accumulate in container headspace resulting in

flammability hazard. Heat may cause the containers to explode.

Special protective equipment and precautions for firefighters

Special firefighting procedures

Use water spray to keep fire-exposed containers cool. Water may be ineffective in fighting the fire. Fight fire from a protected location. Move containers from fire area if you can do so

without risk.

Special protective equipment for fire-fighters Firefighters must use standard protective equipment including flame retardant coat, helmet

with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

#### **ACCIDENTAL RELEASE MEASURES:**

Personal precautions, protective equipment and emergency procedures

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Avoid breathing mists or vapors. Keep upwind. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away.

Methods and material for containment and cleaning

Eliminate all ignition sources if safe to do so. Use only non-sparking tools. Take precautionary measures against static discharges. Stop leak if possible without any risk.

Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.

Notification Procedures

Prevent entry into waterways, sewer, basements or confined areas. Inform authorities if large amounts are involved.

**Environmental precautions** 

Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

## **HANDLING AND STORAGE:**

Precautions for safe handling

Do not handle until all safety precautions have been read and understood. DO NOT handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Wear protective

gloves/protective clothing/eye

protection/ face protection. Avoid contact with eyes, skin, and clothing. Do not breathe mist or vapor. Use only with adequate ventilation. Wash hands thoroughly after handling.

Conditions for safe storage, including any incompatibilities

Keep away from food, drink and animal feeding stuffs. Keep container tightly closed in a dry, well-ventilated place. Ground container and transfer equipment to eliminate static electric sparks. Comply with all national, state, and local codes pertaining to the storage, handling,

dispensing, and disposal of flammable liquids.



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## **EXPOSURE CONTROLS PERSONAL PROTECTION:**

**Control parameters** 

Appropriate engineering

: No data available controls

Individual protection measures, such as personal protective equipment

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust

ventilation, or other engineering controls to maintain airborne levels below recommended **General information** 

exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work

area. Use explosion-proof ventilation equipment.

Eye/face protection Wear safety glasses with side shields (or goggles).

Hand protection Chemical resistant gloves.

Other Wear suitable protective clothing.

Respiratory protection In case of inadequate ventilation use suitable respirator. Chemical

respirator with organic vapor cartridge.

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and

Hygiene measures protective equipment to remove contaminants. Provide eyewash station and safety shower.

Avoid contact with eyes, skin, and clothing.

## 9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance : Clear, colorless liquid

Odor Characteristic

Solubility Miscible in water.

**Formula**  $C_4H_{10}O$ 

: 74.12 g/mol **Molecular Weight** 

0.81 g/cm3 at 25°C **Specific Gravity** 

No information found.

% Volatiles by volume @

21C (70F)

100

**Boiling Point** : 116 - 118°C

**Melting Point** : -90.0°C



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Flash Point : 35°C
Vapor Density (Air=1) : 2.6

Vapor Pressure (mm Hg) : 0.9 kPa 25°C

Evaporation Rate (BuAc=1) : 0.46

10. STABILITY AND REACTIVITY:

**Reactivity** : No data available.

**Chemical stability**: Material is stable under normal conditions..

Possibility of hazardous

: No data available.

Conditions to avoid : Heat, sparks, flames. Sunlight.

Incompatible materials : Oxidizing agents, Alkali metals, Bases, Strong acids, Halogens

**Hazardous decomposition** 

products

: No data available.

## 11. TOXICOLOGICAL INFORMATION:

Information on likely routes of exposure

Ingestion : Irritating. May cause nausea, stomach pain and vomiting.

Inhalation May cause irritation to the mucous membranes and upper respiratory tract. May cause

central nervous system effects

Skin contact : Causes mild skin irritation

Eye contact : Causes serious eye irritation.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral Product : LD 50 (Rat): 790 mg/kg

Dermal Product : LD 50 (Rabbit): 3400 mg/kg

Inhalation Product : LC50 Inhalation - Rat - 4 h - 8000 ppm

Repeated dose toxicity

**Product** 

: No data available.

Skin corrosion/irritation

**Product** 

Prolonged or repeated skin contact may cause drying, cracking, or irritation

Serious eye damage/eye irritation Product

: Irritating to eyes.

Respiratory or skin sensitization Product

No data available

Carcinogenicity Product

: This substance has no evidence of carcinogenic properties



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IARC Monographs on the

**Evaluation of Carcinogenic** 

**Risks to Humans** 

: No carcinogenic components identified.

**US. National Toxicology** 

Program (NTP) Report on

Carcinogens

: No carcinogenic components identified.

**US. OSHA Specifically** 

Regulated Substances (29

CFR 1910.1001-1050 Germ cell mutagenicity : No carcinogenic components identified.

In vitro Product

No data available.

Reproductive toxicity

Product

No components toxic to reproduction .

Specific target organ

toxicity - single exposure

Not known.

**Product** 

Specific target organ

toxicity - repeated

None known.

exposure Product

**Aspiration hazard Product** 

May be harmful if swallowed and enters airways.

Other effects None known.

#### 12. ECOLOGICAL INFORMATION:

**Ecotoxicity** 

Acute hazards to the aquatic environment

Fish Product : LC 50 (Pimephales promelas (fathead minnow) - 1.840 mg/l - 96 h

**Aquatic invertebrates** 

**Product** 

: EC50 - Daphnia magna (Water flea) - 1.983 mg/l - 48 h

Chronic hazards to the aquatic environment

Fish Product : No data available.

Aquatic invertebrates

No data available.

**Product** 

**Toxicity to Aquatic Plants** 

: No data available.

**Product:** 

Persistence and degradability

**Biodegradation Product** : Expected to be readily biodegradable.

**BOD/COD** ratio Product : No data available.

Bioaccumulative potential



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**Bioconcentration factor** 

(BCF) Product

: No data available on bioaccumulation.

Partition coefficient n-

octanol / water (log Kow)

Product

: No data available.

Specified substance(s)

Log Kow: 0.05

Mobility in soil

No data available.

Other adverse effects

No data available.

#### 13. DISPOSAL CONSIDERATION:

**Disposal instructions** : Discharge, treatment, or disposal may be subject to national, state, or local laws. Disposal

recommendations are based on uncontaminated material.

**Contaminated packaging** Since emptied containers retain product residue, follow label warnings even after container

is emptied.

## 14. TRANSPORT INFORMATION:

DOT	UN No. UN 1120	UN proper shipping name 1-Butanol (Butyl alcohol)	Hazard Class(es) 3	Packaging group III	Marine Pollutant No
IMDG	UN 1120	1-Butanol (Butyl alcohol)	3	III	No
IATA	UN 1120	1-Butanol (Butyl alcohol)	3	III	No

#### 15. REGULATORY INFORMATION:

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006. Safety, health and environmental regulations/legislation specific for the substance or mixture No Data Available.



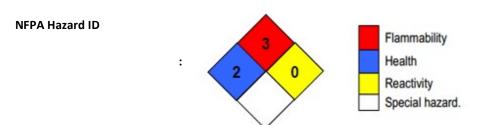
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## **16. OTHER INFORMATION:**



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

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