

## Safety Data Sheet

according to Regulation (EC) No 1907/2006 (REACH)  
Classifications according to Regulation (EC) No 1272/2008.  
Printdate 03 Sep 2024

## 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1. Product name:

1-Butanol-d1

### 1.1. Catalog No.:

1050-1X50ML

### 1.2. Relevant identified uses of the substance or mixture

Identified: Laboratory chemical  
uses: R&D

### 1.3. Uses advised against:

HPC Standards GmbH  
Permoserstrasse 15

04318 Leipzig  
Germany

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Fax. +49 341 5295 182  
E-mail: info@armar-europa.de

## 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture  
Classification according to Regulation (EC) No 1272/2008  
Flammable liquids (Category 3), H226  
Acute toxicity, Oral (Category 4), H302  
Skin irritation (Category 2), H315  
Serious eye damage (Category 1), H318  
Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336  
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

### 2.2. Label elements

#### 2.2.1. Pictogram



#### 2.2.2.

2.2 Label elements  
Labelling according Regulation (EC) No 1272/2008  
Pictogram Signal word Danger  
Hazard statement(s)  
H226 Flammable liquid and vapor.  
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 statement(s)

P261 Avoid breathing vapors.

P280 Wear protective gloves/ eye protection/ face protection.

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

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

Supplemental Hazard

Statements

none

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Synonyms : Butyl alcohol-d

Formula : C<sub>4</sub>DH<sub>9</sub>O

Molecular weight : 75,13 g/mol

CAS-No. : 4712-38-3

EC-No. : 225-201-2

Component Classification Concentration

Butan-1-[2H]ol

Flam. Liq. 3; Acute Tox. 4;

Skin Irrit. 2; Eye Dam. 1;

STOT SE 3; H226, H302,

H315, H318, H335, H336

<= 100 %

#### 3.1.1. Formula

C<sub>4</sub>H<sub>9</sub>DO

#### 3.1.2. Molecular Weight (g/mol)

75.13

#### 3.1.3. CAS-No.

4712-38-3

#### 4. FIRST AID MEASURES

##### 4.1 Description of first-aid measures

###### General advice

Consult a physician. Show this material safety data sheet to the doctor in attendance. If inhaled: If breathed in, move person into fresh air. If not breathing, give artificial respiration.

Consult a physician.

###### In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

###### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

###### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

##### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

#### 5. FIRE-FIGHTING MEASURES

##### 5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

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

Carbon oxides

##### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

##### 5.4 Further information

Use water spray to cool unopened containers

#### 6. ACCIDENTAL RELEASE MEASURES

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

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

For personal protection see section 8.

##### 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

##### 6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wetbrushing and place in container for disposal according to local regulations (see section 13).

##### 6.4 Reference to other sections

For disposal see section 13.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist.

Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

For precautions see section 2.2.

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

Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

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

Hygroscopic.

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters Exposure Guidelines This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Appropriate engineering controls Engineering Controls Showers Eyewash stations Ventilation systems

Individual protection measures, such as personal protective equipment Eye/face protection Wear safety glasses with side shields (or goggles). Skin and Body Protection Wear protective gloves and protective clothing. Respiratory protection If

exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn.

Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations. General Hygiene Considerations When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

a) Appearance Form: clear, liquid

Color: colorless

b) Odor No data available

c) Odor Threshold No data available

d) pH No data available

e) Melting

point/freezing point

Melting point/range: -89,99 °C

f) Initial boiling point

and boiling range

118 °C - lit.

g) Flash point 34 °C - closed cup

h) Evaporation rate No data available

i) Flammability (solid,  
gas)

No data available

j) Upper/lower

flammability or

explosive limits

Upper explosion limit: 11,2 %(V)

Lower explosion limit: 1,4 %(V)

k) Vapor pressure 5 hPa at 20 °C

l) Vapor density 2,59 - (Air = 1.0)

m) Relative density 0,821 g/cm<sup>3</sup> at 25 °C

n) Water solubility No data available

o) Partition coefficient:

n-octanol/water

No data available

p) Autoignition

temperature

No data available

q) Decomposition temperature  
No data available  
r) Viscosity No data available  
s) Explosive properties No data available  
t) Oxidizing properties No data available 9.2 Other safety information  
Relative vapor density  
2,59 - (Air = 1.0)

## 10. STABILITY AND REACTIVITY

10.1 Reactivity  
No data available 10.2 Chemical stability  
Stable under recommended storage conditions.  
10.3 Possibility of hazardous reactions  
No data available  
10.4 Conditions to avoid  
Heat, flames and sparks.  
10.5 Incompatible materials  
Oxidizing agents, Copper, Alkali metals Strong oxidizing agents  
10.6 Hazardous decomposition products  
Hazardous decomposition products formed under fire conditions. - Carbon oxides  
Other decomposition products - No data available  
In the event of fire: see section 5

## 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects  
Acute toxicity  
No data available  
Skin corrosion/irritation  
No data available  
Serious eye damage/eye irritation  
No data available  
Respiratory or skin sensitization  
No data available  
Germ cell mutagenicity  
No data available  
Carcinogenicity  
IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.  
Reproductive toxicity  
No data available  
Specific target organ toxicity - single exposure  
Inhalation - May cause respiratory irritation.  
Inhalation - May cause respiratory irritation.  
May cause drowsiness or dizziness.  
Specific target organ toxicity - repeated exposure  
No data available  
Aspiration hazard  
No data available  
Additional Information  
RTECS: Not available  
Central nervous system depression, Gastrointestinal disturbance, drying, cracking of the skin, Skin irritation

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

No data available

### 12.2 Persistence and degradability

No data available

### 12.3 Bioaccumulative potential

No data available

### 12.4 Mobility in soil

No data available

### 12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### 12.6 Other adverse effects

No data available

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

## 14. TRANSPORT INFORMATION

### 14.1 UN number

ADR/RID: 1120 IMDG: 1120 IATA: 1120

### 14.2 UN proper shipping name

ADR/RID: BUTANOLS

IMDG: BUTANOLS

IATA: Butanols

### 14.3 Transport hazard class(es)

ADR/RID: 3 IMDG: 3 IATA: 3

### 14.4 Packaging group

ADR/RID: III IMDG: III IATA: III

### 14.5 Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

### 14.6 Special precautions for user

No data available

## 15. REGULATORY INFORMATION

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

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

a trademark of  
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#### 15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

## 16. OTHER 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. For lab use only!