

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**1,4-Butanediol, 250 ml**

Print date: 14.04.2015

Product code: 9991175

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

1,4-Butanediol, 250 ml

CAS No: 110-63-4

EC No: 203-786-5

**1.2. Relevant identified uses of the substance or mixture and uses advised against****Use of the substance/mixture**

Laboratory chemicals

**1.3. Details of the supplier of the safety data sheet****Seller**

Company name: CONATEX-DIDACTIC Lehrmittel GmbH

Street: Im Forstgarten 1

Place: D-66459 Kirkel

Internet: www.conatex.com

**Supplier**

Company name: Carbolution Chemicals GmbH

Street: Im Stadtwald, Gebäude A1.2

Place: D-66123 Saarbrücken

Contact person: Dr. Michael Bauer Telephone: +49 (0)681 302-71232

e-mail: michael.bauer@carbolution-chemicals.de

Internet: www.carbolution-chemicals.de

**1.4. Emergency telephone number:** +49 (0)681 302-71232**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Classification according to Directive 67/548/EEC or 1999/45/EC**

Indications of danger: Xn - Harmful

R phrases:

Harmful if swallowed.

Vapours may cause drowsiness and dizziness.

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

Hazard categories:

Acute toxicity: Acute Tox. 4

Specific target organ toxicity - single exposure: STOT SE 3

Hazard Statements:

Harmful if swallowed.

May cause drowsiness or dizziness.

**2.2. Label elements****Hazardous components which must be listed on the label**

1,4-Butanediol

Signal word: Warning

Pictograms: GHS07

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#### Hazard statements

H302 Harmful if swallowed.  
H336 May cause drowsiness or dizziness.

#### Precautionary statements

P271 Use only outdoors or in a well-ventilated area.

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Sum formula: C<sub>4</sub>H<sub>10</sub>O<sub>2</sub>  
Molecular weight: 90,12

#### Hazardous components

EC No	Chemical name	Quantity
CAS No	Classification according to Directive 67/548/EEC	
Index No	Classification according to Regulation (EC) No. 1272/2008 [CLP]	
203-786-5	1,4-Butanediol	100 %
110-63-4	Xn - Harmful R22-67	
	Acute Tox. 4, STOT SE 3; H302 H336	

Full text of R-, H- and EUH-phrases: see section 16.

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

##### General information

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

##### After inhalation

Provide fresh air. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

##### After contact with skin

Wash with plenty of water. Take off contaminated clothing and wash it before reuse.

##### After contact with eyes

Rinse immediately carefully and thoroughly with eye-bath or water. In case of eye irritation consult an ophthalmologist.

##### After ingestion

Rinse mouth immediately and drink plenty of water. Medical treatment necessary.

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

No data available

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

##### Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings.

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

The product itself does not burn.

**5.3. Advice for firefighters**

In case of fire: Wear self-contained breathing apparatus.

**Additional information**

Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**

Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

**6.2. Environmental precautions**

Do not allow to enter into surface water or drains.

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

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

**SECTION 7: Handling and storage****7.1. Precautions for safe handling****Advice on safe handling**

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

**Advice on protection against fire and explosion**

Only use the material in places where open light, fire and other flammable sources can be kept away.

**7.2. Conditions for safe storage, including any incompatibilities****Requirements for storage rooms and vessels**

Keep container tightly closed.

**Further information on storage conditions**

Recommended storage temperature: -20 °C

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****8.2. Exposure controls****Appropriate engineering controls**

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

**Protective and hygiene measures**

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink.

**Eye/face protection**

Eye protection: Tightly sealed safety glasses. German Industry Norms (DIN) / European Norms (EN): DIN EN 166

**Hand protection**

Hand protection: Single-use gloves. Before using check leak tightness / impermeability. Use gloves only once. German Industry Norms (DIN) / European Norms (EN): DIN EN 374

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#### Skin protection

Body protection: Lab apron. Only wear fitting, comfortable and clean protective clothing.

#### Respiratory protection

With correct and proper use, and under normal conditions, breathing protection is not required. If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn. Suitable respiratory protective equipment: particulates filter device (DIN EN 143).

## SECTION 9: Physical and chemical properties

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

Physical state:	liquid
Colour:	colourless
Odour:	No data available

#### Test method

pH-Value: No data available

#### Changes in the physical state

Melting point:	16 °C
Initial boiling point and boiling range:	230 °C
Sublimation point:	No data available
Softening point:	No data available
Flash point:	No data available

#### Flammability

Solid:	No data available
Gas:	No data available
Lower explosion limits:	No data available
Upper explosion limits:	No data available
Ignition temperature:	No data available

#### Auto-ignition temperature

Solid:	No data available
Gas:	No data available
Vapour pressure:	No data available
Vapour pressure:	No data available
Density (at 25 °C):	1,017 g/cm <sup>3</sup>
Water solubility:	No data available
Partition coefficient:	No data available
Viscosity / dynamic:	No data available
Viscosity / kinematic:	No data available
Flow time:	No data available
Vapour density:	3,11
Evaporation rate:	No data available
Solvent separation test:	No data available
Solvent content:	No data available

### 9.2. Other information

Solid content:	No data available
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#### SECTION 10: Stability and reactivity

##### 10.1. Reactivity

No data available

##### 10.3. Possibility of hazardous reactions

No data available

##### 10.4. Conditions to avoid

No data available

##### 10.5. Incompatible materials

Oxidizing agents, strong.

##### 10.6. Hazardous decomposition products

No data available

#### SECTION 11: Toxicological information

##### 11.1. Information on toxicological effects

###### Toxicokinetics, metabolism and distribution

Toxicological data are not available.

###### Acute toxicity

Acute oral toxicity.

CAS No	Chemical name				
	Exposure routes	Method	Dose	Species	Source
110-63-4	1,4-Butanediol				
	oral	ATE	500 mg/kg		

###### Irritation and corrosivity

Vapours may cause drowsiness and dizziness.

###### Sensitising effects

No data available

###### Severe effects after repeated or prolonged exposure

No data available

###### Carcinogenic/mutagenic/toxic effects for reproduction

Due to missing data no statement can be made whether the substance fulfills the criteria of CMR categories 1 or 2. Practical experiences do not give any evidence for CMR activity of categories 1 or 2.

###### Specific effects in experiment on an animal

No data available

###### Additional information on tests

This mixture is classified as hazardous according to 1999/45/EC.

###### Practical experience

###### Observations relevant to classification

No data available

#### SECTION 12: Ecological information

##### 12.1. Toxicity

No data available

##### 12.2. Persistence and degradability

No data available

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**12.3. Bioaccumulative potential**

No data available

**12.4. Mobility in soil**

No data available

**12.5. Results of PBT and vPvB assessment**

No data available

**12.6. Other adverse effects**

No data available

**Further information**

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

**SECTION 13: Disposal considerations****13.1. Waste treatment methods****Advice on disposal**

Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation.

**Waste disposal number of waste from residues/unused products**

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing dangerous substances, including mixtures of laboratory chemicals  
Classified as hazardous waste.

**Waste disposal number of used product**

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing dangerous substances, including mixtures of laboratory chemicals  
Classified as hazardous waste.

**Waste disposal number of contaminated packaging**

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by dangerous substances  
Classified as hazardous waste.

**Contaminated packaging**

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

**SECTION 14: Transport information****Land transport (ADR/RID)****Other applicable information (land transport)**

No dangerous good in sense of these transport regulations.

**Inland waterways transport (ADN)****Other applicable information (inland waterways transport)**

No dangerous good in sense of these transport regulations.

**Marine transport (IMDG)****Other applicable information (marine transport)**

No dangerous good in sense of these transport regulations.

**Air transport (ICAO)****Other applicable information (air transport)**

No dangerous good in sense of these transport regulations.

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#### 14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

### SECTION 15: Regulatory information

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

##### EU regulatory information

##### Additional information

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

##### National regulatory information

Water contaminating class (D): 3 - highly water contaminating

### SECTION 16: Other information

#### Relevant R-phrases (Number and full text)

- 22 Harmful if swallowed.
- 67 Vapours may cause drowsiness and dizziness.

#### Relevant H- and EUH-phrases (Number and full text)

- H302 Harmful if swallowed.
- H336 May cause drowsiness or dizziness.