

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**1-Pentanol, 100 ml**

Print date: 15.04.2015

Product code: 9991768

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

1-Pentanol, 100 ml

CAS No: 71-41-0  
Index No: 603-200-00-1  
EC No: 200-752-1

**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, Xi - Irritant  
R phrases:  
Flammable.  
Harmful by inhalation.  
Irritating to respiratory system and skin.

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

Hazard categories:  
Flammable liquid: Flam. Liq. 3  
Acute toxicity: Acute Tox. 4  
Specific target organ toxicity - single exposure: STOT SE 3  
Skin corrosion/irritation: Skin Irrit. 2  
Hazard Statements:  
Flammable liquid and vapour.  
Harmful if inhaled.  
May cause respiratory irritation.  
Causes skin irritation.

**2.2. Label elements**

**Hazardous components which must be listed on the label**  
1-pentanol

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Signal word:

Warning

Pictograms:

GHS02-GHS07



#### Hazard statements

H226	Flammable liquid and vapour.
H315	Causes skin irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.

#### Precautionary statements

P280	Wear protective gloves/protective clothing/eye protection/face protection.
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### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Sum formula:	C <sub>5</sub> H <sub>12</sub> O
Molecular weight:	88,15

#### 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]	
200-752-1	1-pentanol	100 %
71-41-0	Xn - Harmful, Xi - Irritant R10-20-37/38	
603-200-00-1	Flam. Liq. 3, Acute Tox. 4, STOT SE 3, Skin Irrit. 2; H226 H332 H335 H315	

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 all cases of doubt, or when symptoms persist, seek medical advice.

##### After contact with skin

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention.

##### After contact with eyes

Rinse immediately carefully and thoroughly with eye-bath or water. In case of troubles or persistent symptoms, consult an ophthalmologist.

##### After ingestion

Rinse mouth immediately and drink plenty of water.

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

No data available

### SECTION 5: Firefighting measures

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**5.1. Extinguishing media****Suitable extinguishing media**Water. Carbon dioxide (CO<sub>2</sub>). Foam. Extinguishing powder.**5.2. Special hazards arising from the substance or mixture**

Combustible. Vapours may form explosive mixtures with air.

**5.3. Advice for firefighters**

Wear a self-contained breathing apparatus and chemical protective clothing. Full protective suit.

**Additional information**

Use water spray jet to protect personnel and to cool endangered containers. 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**

Remove all sources of ignition. Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Wear personal protection equipment.

**6.2. Environmental precautions**

Do not allow uncontrolled discharge of product into the environment. Explosion hazard.

**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**

Keep away from sources of ignition. - No smoking. Take precautionary measures against static discharges. Vapours may form explosive mixtures with air.

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

Keep container tightly closed. Keep in a cool, well-ventilated place. Keep away from sources of ignition. - No smoking.

**Advice on storage compatibility**

Do not store together with: Material, rich in oxygen, oxidizing.

**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. Protect skin by using skin protective cream. After work, wash hands and face. When using do not eat or drink.

**Eye/face protection**

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

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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

#### 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:	7
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#### Changes in the physical state

Initial boiling point and boiling range:	136 °C
Sublimation point:	No data available
Softening point:	No data available
Flash point:	49 °C

#### Flammability

Solid:	No data available
Gas:	No data available

Lower explosion limits:	1,2 vol. %
Upper explosion limits:	10 vol. %
Ignition temperature:	No data available

#### Auto-ignition temperature

Solid:	No data available
Gas:	No data available

Vapour pressure: (at 20 °C)	2 hPa
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Vapour pressure:	No data available
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Density:	0,811 g/cm <sup>3</sup>
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Water solubility: (at 25 °C)	22,8 g/L
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Partition coefficient:	1,51
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Viscosity / dynamic:	No data available
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Viscosity / kinematic:	No data available
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Flow time:	No data available
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Vapour density:	3,04
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Evaporation rate:	No data available
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Solvent separation test:	No data available
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Solvent content:	No data available
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### 9.2. Other information

Solid content:

No data available

## 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

Keep away from heat. Ignition hazard.

### 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 toxicity, inhalant.

CAS No	Chemical name				
	Exposure routes	Method	Dose	Species	Source
71-41-0	1-pentanol				
	inhalative vapour	ATE	11 mg/l		
	inhalative aerosol	ATE	1,5 mg/l		

#### Irritation and corrosivity

Following inhalation: Lung irritation. Coughing. shortage of breath. After skin contact: Irritant.

#### 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

The classification was carried out according to the calculation method of the Preparations Directive (1999/45/EC).

#### Practical experience

#### Observations relevant to classification

No data available

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**SECTION 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**

No data available

**12.6. Other adverse effects**

No data available

**Further information**

Do not allow to enter into surface water or drains. The classification was carried out according to the calculation method of the Preparations Directive (1999/45/EC).

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

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)**

<b><u>14.1. UN number:</u></b>	UN1105
<b><u>14.2. UN proper shipping name:</u></b>	PENTANOLS
<b><u>14.3. Transport hazard class(es):</u></b>	3
<b><u>14.4. Packing group:</u></b>	III
Hazard label:	3

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Classification code: F1  
 Limited quantity: 5 L  
 Transport category: 3  
 Hazard No: 30  
 Tunnel restriction code: D/E

**Other applicable information (land transport)**

E1

**Inland waterways transport (ADN)**

**14.1. UN number:** UN1105  
**14.2. UN proper shipping name:** PENTANOLS  
**14.3. Transport hazard class(es):** 3  
**14.4. Packing group:** III  
 Hazard label: 3  
 Classification code: F1  
 Limited quantity: 5 L

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

E1

**Marine transport (IMDG)**

**14.1. UN number:** UN1105  
**14.2. UN proper shipping name:** PENTANOLS  
**14.3. Transport hazard class(es):** 3  
**14.4. Packing group:** III  
 Hazard label: 3  
 Special Provisions: 223  
 Limited quantity: 5 L  
 EmS: F-E, S-D

**Other applicable information (marine transport)**

E1

**Air transport (ICAO)**

**14.1. UN number:** UN1105  
**14.2. UN proper shipping name:** PENTANOLS  
**14.3. Transport hazard class(es):** 3  
**14.4. Packing group:** III  
 Hazard label: 3  
 Special Provisions: A3  
 Limited quantity Passenger: 10 L  
 IATA-packing instructions - Passenger: 355  
 IATA-max. quantity - Passenger: 60 L  
 IATA-packing instructions - Cargo: 366  
 IATA-max. quantity - Cargo: 220 L

**Other applicable information (air transport)**

E1

: Y344

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: no

### SECTION 15: Regulatory information

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**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)**

- |       |  |
|-------|--|
| 10    | Flammable.                                 |
| 20    | Harmful by inhalation.                     |
| 37/38 | Irritating to respiratory system and skin. |

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

- |      |                                   |
|------|-----------------------------------|
| H226 | Flammable liquid and vapour.      |
| H315 | Causes skin irritation.           |
| H332 | Harmful if inhaled.               |
| H335 | May cause respiratory irritation. |