

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Chlorobenzene, 100 ml**

Print date: 14.04.2015

Product code: 9991230

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

Chlorobenzene, 100 ml

CAS No: 108-90-7  
Index No: 602-033-00-1  
EC No: 203-628-5

**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, N - Dangerous for the environment  
R phrases:  
Flammable.  
Harmful by inhalation.  
Toxic to aquatic organisms.  
May cause long-term adverse effects in the aquatic environment.

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

Hazard categories:  
Flammable liquid: Flam. Liq. 3  
Acute toxicity: Acute Tox. 4  
Hazardous to the aquatic environment: Aquatic Chronic 2  
Hazard Statements:  
Flammable liquid and vapour.  
Harmful if inhaled.  
Toxic to aquatic life with long lasting effects.

**2.2. Label elements**

**Hazardous components which must be listed on the label**  
chlorobenzene

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Signal word:

Warning

Pictograms:

GHS02-GHS07-GHS09



#### Hazard statements

H226 Flammable liquid and vapour.  
H332 Harmful if inhaled.  
H411 Toxic to aquatic life with long lasting effects.

#### Precautionary statements

P273 Avoid release to the environment.

#### 2.3. Other hazards

No information available.

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Sum formula: C<sub>6</sub>H<sub>5</sub>Cl  
Molecular weight: 112,56

#### 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] |          |
| 203-628-5    | chlorobenzene   | 100 %    |
| 108-90-7     | Xn - Harmful, N - Dangerous for the environment R10-20-51-53    |          |
| 602-033-00-1 | Flam. Liq. 3, Acute Tox. 4, Aquatic Chronic 2; H226 H332 H411   |          |

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. When in doubt or if symptoms are observed, get medical advice.

##### 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.

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

No information available.

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

Treat symptomatically.

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#### SECTION 5: Firefighting measures

##### 5.1. Extinguishing media

###### Suitable extinguishing media

Water spray jet, Carbon dioxide (CO<sub>2</sub>), Foam, Extinguishing powder.

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

Flammable. Vapours can form explosive mixtures with air.

##### 5.3. Advice for firefighters

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

##### 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. Use personal protection equipment.

##### 6.2. Environmental precautions

Do not allow uncontrolled discharge of product into the environment. Danger of explosion

##### 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.

##### 6.4. Reference to other sections

Safe handling: see section 7  
Personal protection equipment: see section 8  
Disposal: see section 13

#### 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 can 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 heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

###### Advice on storage compatibility

Do not store together with: Oxidising agent. Pyrophoric or self-heating substances.

#### SECTION 8: Exposure controls/personal protection

##### 8.1. Control parameters

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#### Exposure limits (EH40)

| CAS No   | Substance     | ppm | mg/m <sup>3</sup> | fibres/ml | Category      | Origin |
|----------|---------------|-----|-------------------|-----------|---------------|--------|
| 108-90-7 | Chlorobenzene | 1   | 4.7               |           | TWA (8 h)     | WEL    |
|          |               | 3   | 14                |           | STEL (15 min) | WEL    |

#### 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

Wear eye/face protection.

##### Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

##### Skin protection

Wear suitable protective clothing.

##### Respiratory protection

In case of inadequate ventilation wear respiratory protection.

### 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: not determined

##### Changes in the physical state

Melting point: -45 °C  
 Initial boiling point and boiling range: 132 °C  
 Sublimation point: No data available  
 Softening point: No data available  
 Flash point: 27 °C

##### Flammability

Solid: not applicable  
 Gas: not applicable

Lower explosion limits: 1,3 vol. %  
 Upper explosion limits: 7,1 vol. %  
 Ignition temperature: No data available

##### Auto-ignition temperature

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|                                     |                         |
|-------------------------------------|-------------------------|
| Solid:                              | not applicable          |
| Gas:                                | 637 °C                  |
| Decomposition temperature:          | not determined          |
| <b>Oxidizing properties</b>         |                         |
| Not oxidizing.                      |                         |
| Vapour pressure:<br>(at 25 °C)      | 15,7 hPa                |
| Vapour pressure:                    | No data available       |
| Density (at 25 °C):                 | 1,106 g/cm <sup>3</sup> |
| Water solubility:                   | insoluble               |
| <b>Solubility in other solvents</b> |                         |
| not determined                      |                         |
| Partition coefficient:              | 2,89                    |
| Viscosity / dynamic:                | No data available       |
| Viscosity / kinematic:              | No data available       |
| Flow time:                          | No data available       |
| Vapour density:                     | not determined          |
| Evaporation rate:                   | not determined          |
| Solvent separation test:            | No data available       |
| Solvent content:                    | No data available       |

#### **9.2. Other information**

Solid content: not determined

### SECTION 10: Stability and reactivity

#### **10.1. Reactivity**

Flammable, Ignition hazard.

#### **10.2. Chemical stability**

The product is stable under storage at normal ambient temperatures.

#### **10.3. Possibility of hazardous reactions**

No known hazardous reactions.

#### **10.4. Conditions to avoid**

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Vapours can form explosive mixtures with air.

#### **10.5. Incompatible materials**

No information available.

#### **10.6. Hazardous decomposition products**

No known hazardous decomposition products.

### SECTION 11: Toxicological information

#### **11.1. Information on toxicological effects**

##### **Toxicokinetics, metabolism and distribution**

Toxicological data are not available.

##### **Acute toxicity**

Toxicological data are not available.

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| CAS No   | Chemical name      |        |          |         |        |
|----------|--------------------|--------|----------|---------|--------|
|          | Exposure routes    | Method | Dose     | Species | Source |
| 108-90-7 | chlorobenzene      |        |          |         |        |
|          | inhalative vapour  | ATE    | 11 mg/l  |         |        |
|          | inhalative aerosol | ATE    | 1,5 mg/l |         |        |

#### Irritation and corrosivity

No data available

#### 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

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

| CAS No   | Chemical name            |        |           |           |                           |        |
|----------|--------------------------|--------|-----------|-----------|---------------------------|--------|
|          | Aquatic toxicity         | Method | Dose      | [h]   [d] | Species                   | Source |
| 108-90-7 | chlorobenzene            |        |           |           |                           |        |
|          | Acute algae toxicity     | ErC50  | 12,5 mg/l | 96 h      | Selenastrum capricornutum |        |
|          | Acute crustacea toxicity | EC50   | 20 mg/l   | 48 h      | Daphnia magna             |        |

### 12.2. Persistence and degradability

The product has not been tested.

### 12.3. Bioaccumulative potential

The product has not been tested.

#### Partition coefficient n-octanol/water

| CAS No   | Chemical name | Log Pow |
|----------|---------------|---------|
| 108-90-7 | chlorobenzene | 2,84    |

### 12.4. Mobility in soil

The product has not been tested.

### 12.5. Results of PBT and vPvB assessment

The product has not been tested.

### 12.6. Other adverse effects

No information available.

#### Further information

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

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## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

#### Advice on disposal

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. 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>14.1. UN number:</b>                  | UN 1134       |
| <b>14.2. UN proper shipping name:</b>    | CHLOROBENZENE |
| <b>14.3. Transport hazard class(es):</b> | 3             |
| <b>14.4. Packing group:</b>              | III           |
| Hazard label:                            | 3             |
| 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)

|  |               |
|--|---------------|
| <b>14.1. UN number:</b>                  | UN 1134       |
| <b>14.2. UN proper shipping name:</b>    | CHLOROBENZENE |
| <b>14.3. Transport hazard class(es):</b> | 3             |
| <b>14.4. Packing group:</b>              | III           |
| Hazard label:                            | 3             |
| Classification code:                     | F1            |
| Limited quantity:                        | 5 L           |

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

E1

#### Marine transport (IMDG)

|  |                |
|--|----------------|
| <b>14.1. UN number:</b>                  | UN 1134        |
| <b>14.2. UN proper shipping name:</b>    | CHLORO BENZENE |
| <b>14.3. Transport hazard class(es):</b> | 3              |
| <b>14.4. Packing group:</b>              | III            |
| Hazard label:                            | 3              |
| Special Provisions:                      | -              |
| Limited quantity:                        | 5 L            |
| EmS:                                     | F-E, S-D       |

#### Other applicable information (marine transport)

E1

#### Air transport (ICAO)

|  |                |
|--|----------------|
| <b>14.1. UN number:</b>                  | UN 1134        |
| <b>14.2. UN proper shipping name:</b>    | CHLORO BENZENE |
| <b>14.3. Transport hazard class(es):</b> | 3              |
| <b>14.4. Packing group:</b>              | III            |
| Hazard label:                            | 3              |
| 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)

: Y344

E1

#### 14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: yes

#### 14.6. Special precautions for user

No information available.

#### 14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

not applicable

### SECTION 15: Regulatory information

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

##### EU regulatory information

2004/42/EC (VOC): 100 % (1106 g/l)

##### Additional information

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

##### National regulatory information

Employment restrictions: Observe employment restrictions for young people. Observe employment restrictions for child bearing mothers and nursing.

Water contaminating class (D): 2 - water contaminating

#### 15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out.



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**SECTION 16: Other information****Abbreviations and acronyms**

ADR: Accord européen sur le transport des marchandises dangereuses par Route  
(European Agreement concerning the International Carriage of Dangerous Goods by Road )  
IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association  
GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
EINECS: European Inventory of Existing Commercial Chemical Substances  
ELINCS: European List of Notified Chemical Substances  
CAS: Chemical Abstracts Service  
LC50: Lethal concentration, 50%  
LD50: Lethal dose, 50%

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

|    |   |
|----|---|
| 10 | Flammable.  |
| 20 | Harmful by inhalation.  |
| 51 | Toxic to aquatic organisms.                                     |
| 53 | May cause long-term adverse effects in the aquatic environment. |

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

|      |  |
|------|--|
| H226 | Flammable liquid and vapour.                     |
| H332 | Harmful if inhaled.                              |
| H411 | Toxic to aquatic life with long lasting effects. |

**Further Information**

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.