

## SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 5.0 Revision Date 03.12.2012

Print Date 18.04.2014

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

#### 1.1 Product identifiers

Product name : 1,2-Dichlorobenzene

Product Number : 240664  
Brand : Sigma-Aldrich  
Index-No. : 602-034-00-7  
CAS-No. : 95-50-1

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Manufacture of substances

#### 1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Company Ltd.  
The Old Brickyard  
NEW ROAD, GILLINGHAM  
Dorset  
SP8 4XT  
UNITED KINGDOM

Telephone : +44 (0)1747 833000  
Fax : +44 (0)1747 833313  
E-mail address : eurtechserv@sial.com

#### 1.4 Emergency telephone number

Emergency Phone # : +44 (0)1747 833100

### 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

##### Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]

Acute toxicity, Oral (Category 4)  
Eye irritation (Category 2)  
Specific target organ toxicity - single exposure (Category 3)  
Skin irritation (Category 2)  
Acute aquatic toxicity (Category 1)  
Chronic aquatic toxicity (Category 1)

##### Classification according to EU Directives 67/548/EEC or 1999/45/EC

Harmful if swallowed. Irritating to eyes, respiratory system and skin. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

#### 2.2 Label elements

##### Labelling according Regulation (EC) No 1272/2008 [CLP]

Pictogram



Signal word : Warning

Hazard statement(s)

H302 : Harmful if swallowed.  
H315 : Causes skin irritation.  
H319 : Causes serious eye irritation.  
H335 : May cause respiratory irritation.

H410	Very toxic to aquatic life with long lasting effects.
Precautionary statement(s)	
P261	Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P273	Avoid release to the environment.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P501	Dispose of contents/ container to an approved waste disposal plant.
Supplemental Hazard Statements	none

**According to European Directive 67/548/EEC as amended.**

Hazard symbol(s)



R-phrases(s)

R22	Harmful if swallowed.
R36/37/38	Irritating to eyes, respiratory system and skin.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrases(s)

S23	Do not breathe gas/fumes/vapour/spray.
S60	This material and its container must be disposed of as hazardous waste.
S61	Avoid release to the environment. Refer to special instructions/ Safety data sheets.

**2.3 Other hazards - none**

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

**3.1 Substances**

Formula	: C <sub>6</sub> H <sub>4</sub> Cl <sub>2</sub>
Molecular Weight	: 147.00 g/mol

Component	Concentration
<b>1,2-Dichlorobenzene</b>	
CAS-No.	95-50-1
EC-No.	202-425-9
Index-No.	602-034-00-7

**4. FIRST AID MEASURES**

**4.1 Description of first aid measures**

**General advice**

Consult a physician. Show this 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**

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

no data available

---

## 5. FIREFIGHTING 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, Hydrogen chloride gas

### 5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting 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 vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

### 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

### 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 vapour or mist.

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

### 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.

Light sensitive.

### 7.3 Specific end use(s)

no data available

---

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

#### Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
1,2-Dichlorobenzene	95-50-1	TWA	20 ppm 122 mg/m <sup>3</sup>	Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values
	Remarks	Identifies the possibility of significant uptake through the skin Indicative		

		STEL	50 ppm 306 mg/m3	Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values
		Identifies the possibility of significant uptake through the skin Indicative		
		TWA	25 ppm 153 mg/m3	UK. EH40 WEL - Workplace Exposure Limits
		Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity. Indicates those substances for which classification and labelling was introduced in the 29th Adaptation to Technical Progress of the European Community's Dangerous Substances Directive		
		STEL	50 ppm 306 mg/m3	UK. EH40 WEL - Workplace Exposure Limits
		Can be absorbed through skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity. Indicates those substances for which classification and labelling was introduced in the 29th Adaptation to Technical Progress of the European Community's Dangerous Substances Directive		

## 8.2 Exposure controls

### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

### Personal protective equipment

#### Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Full contact

Material: Fluorinated rubber

Minimum layer thickness: 0.7 mm

Break through time: 480 min

Material tested: Vitoject® (KCL 890 / Aldrich Z677698, Size M)

Splash protection

Material: Nitrile rubber

Minimum layer thickness: 0.4 mm

Break through time: 38 min

Material tested: Camatril® (KCL 730 / Aldrich Z677442, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an Industrial Hygienist familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

### Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

---

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

a) Appearance	Form: liquid, clear Colour: colourless
b) Odour	no data available
c) Odour Threshold	no data available
d) pH	no data available
e) Melting point/freezing point	Melting point/range: -18 - -17 °C - lit.
f) Initial boiling point and boiling range	178 - 180 °C - lit.
g) Flash point	66.0 °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: 9.2 %(V) Lower explosion limit: 2.2 %(V)
k) Vapour pressure	2.1 hPa at 35.0 °C 1.6 hPa at 20.0 °C
l) Vapour density	no data available
m) Relative density	1.306 g/cm <sup>3</sup> at 25 °C
n) Water solubility	no data available
o) Partition coefficient: n-octanol/water	no data available
p) Auto-ignition temperature	648.0 °C
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

no data available

---

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

no data available

- 10.3 Possibility of hazardous reactions**  
no data available
- 10.4 Conditions to avoid**  
Heat, flames and sparks.
- 10.5 Incompatible materials**  
Strong oxidizing agents
- 10.6 Hazardous decomposition products**  
Other decomposition products - no data available

---

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - rat - 500.0 mg/kg

Inhalation: no data available

LD50 Dermal - rabbit - > 10,000 mg/kg

#### 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: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (1,2-Dichlorobenzene)

#### Reproductive toxicity

no data available

no data available

#### Specific target organ toxicity - single exposure

May cause respiratory irritation.

#### Specific target organ toxicity - repeated exposure

no data available

#### Aspiration hazard

no data available

#### Potential health effects

##### Inhalation

May be harmful if inhaled. Causes respiratory tract irritation.

##### Ingestion

Harmful if swallowed.

##### Skin

May be harmful if absorbed through skin. Causes skin irritation.

##### Eyes

Causes serious eye irritation.

#### Additional Information

RTECS: CZ4500000

---

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

Toxicity to fish

LC50 - Oncorhynchus mykiss (rainbow trout) - 1.58 mg/l - 96.0 h

NOEC - Cyprinodon variegatus (sheepshead minnow) - 9.7 mg/l - 96.0 h

Toxicity to daphnia and other aquatic

Immobilization EC50 - Daphnia magna (Water flea) - 0.74 mg/l - 48 h

invertebrates

Toxicity to algae                      Growth inhibition LOEC - *Desmodesmus subspicatus* (green algae) - 50 mg/l - 72 h

## 12.2 Persistence and degradability

## 12.3 Bioaccumulative potential

Bioaccumulation                      *Lepomis macrochirus* (Bluegill) - 14 d -0.00789 mg/l  
Bioconcentration factor (BCF): 89

## 12.4 Mobility in soil

no data available

## 12.5 Results of PBT and vPvB assessment

no data available

## 12.6 Other adverse effects

Very toxic to aquatic life.

---

# 13. DISPOSAL CONSIDERATIONS

## 13.1 Waste treatment methods

### Product

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. 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: 1591                                      IMDG: 1591                                      IATA: 1591

## 14.2 UN proper shipping name

ADR/RID: o-DICHLOROBENZENE  
IMDG: ortho-DICHLOROBENZENE  
IATA: o-Dichlorobenzene

## 14.3 Transport hazard class(es)

ADR/RID: 6.1                                      IMDG: 6.1                                      IATA: 6.1

## 14.4 Packaging group

ADR/RID: III                                      IMDG: III                                      IATA: III

## 14.5 Environmental hazards

ADR/RID: yes                                      IMDG Marine Pollutant: yes                                      IATA: no

## 14.6 Special precautions for user

no data available

---

# 15. REGULATORY INFORMATION

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

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

no data available

## 15.2 Chemical Safety Assessment

no data available

---

# 16. OTHER INFORMATION

### Further information

Copyright 2012 Sigma-Aldrich Co. LLC. License granted to make unlimited paper copies for internal use only.

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. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.sigma-aldrich.com](http://www.sigma-aldrich.com) and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

---