

## SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 5.0 Revision Date 30.11.2012

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GENERIC EU MSDS - NO COUNTRY SPECIFIC DATA - NO OEL DATA

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**1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING****1.1 Product identifiers**

Product name : 2-Chloroethanol

Product Number : 185744  
Brand : Aldrich  
Index-No. : 603-028-00-7  
CAS-No. : 107-07-3**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 Chemie BV  
Stationsplein 4  
3331 LL ZWIJNDRECHT  
NETHERLANDSTelephone : +31 78-620-5411  
Fax : +31 78-620-5421  
E-mail address : eurtechserv@sial.com**1.4 Emergency telephone number**

Emergency Phone # : 112

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**2. HAZARDS IDENTIFICATION****2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]**

Acute toxicity, Inhalation (Category 2)

Acute toxicity, Dermal (Category 1)

Acute toxicity, Oral (Category 2)

Flammable liquids (Category 3)

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

Flammable. Very toxic by inhalation, in contact with skin and if swallowed.

**2.2 Label elements****Labelling according Regulation (EC) No 1272/2008 [CLP]**

Pictogram



Signal word : Danger

Hazard statement(s)

H226 : Flammable liquid and vapour.  
H300 : Fatal if swallowed.  
H310 : Fatal in contact with skin.  
H330 : Fatal if inhaled.

Precautionary statement(s)

P260 : Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.  
P264 : Wash hands thoroughly after handling.

P280 Wear protective gloves/ protective clothing.  
P284 Wear respiratory protection.  
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.  
P302 + P350 IF ON SKIN: Gently wash with plenty of soap and water.  
Supplemental Hazard Statements none

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

Hazard symbol(s)



R-phrase(s)

R10 Flammable.  
R26/27/28 Very toxic by inhalation, in contact with skin and if swallowed.

S-phrase(s)

S 7/9 Keep container tightly closed and in a well-ventilated place.  
S28 After contact with skin, wash immediately with plenty of soap and water.  
S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

**2.3 Other hazards - none**

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

**3.1 Substances**

Synonyms : Ethylene chlorohydrin

Formula : C<sub>2</sub>H<sub>5</sub>ClO

Molecular Weight : 80,51 g/mol

Component	Concentration
<b>2-Chloroethanol</b>	
CAS-No.	107-07-3
EC-No.	203-459-7
Index-No.	603-028-00-7

**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. Take victim immediately to hospital. 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**

Nausea, Headache, Vomiting, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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

no data available

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## 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.

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## 6. ACCIDENTAL RELEASE MEASURES

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

Wear respiratory protection. 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).

### 6.4 Reference to other sections

For disposal see section 13.

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## 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.

Moisture sensitive.

### 7.3 Specific end use(s)

no data available

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

#### Components with workplace control parameters

### 8.2 Exposure controls

#### Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

#### Personal protective equipment

##### Eye/face protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). 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: Fluorinated rubber

Minimum layer thickness: 0,7 mm

Break through time: > 30 min

Material tested: Vitoject® (KCL 890 / Aldrich Z677698, 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, Flame retardant antistatic protective clothing, 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).

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## **9. PHYSICAL AND CHEMICAL PROPERTIES**

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

- |   |   |
|---|---|
| a) Appearance                                   | Form: liquid, clear<br>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: -89 °C - lit.                              |
| f) Initial boiling point and boiling range      | 129 °C - lit.   |
| g) Flash point                                  | 55 °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: 16 %(V)<br>Lower explosion limit: 5 %(V) |
| k) Vapour pressure                              | 7 hPa at 20 °C  |

	47 hPa at 55 °C
l) Vapour density	2,78 - (Air = 1.0)
m) Relative density	1,201 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	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

no data available

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## 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

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## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute toxicity

LC50 Inhalation - rat - 4 h - 0,11 mg/l

LD50 Dermal - mouse - 18 mg/kg

#### Skin corrosion/irritation

Skin - rabbit - No skin irritation - 2 h - OECD Test Guideline 404

#### Serious eye damage/eye irritation

Eyes - rabbit - Mild eye irritation - 72 h - OECD Test Guideline 405

#### Respiratory or skin sensitization

Maximisation Test - guinea pig - OECD Test Guideline 406 - Did not cause sensitization on laboratory animals.

#### Germ cell mutagenicity

no data available

#### Carcinogenicity

Carcinogenicity - This product is or contains a component that is probably not carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.

This product is or contains a component that is probably not carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.

IARC: No component 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**

no data available

**Specific target organ toxicity - repeated exposure**

no data available

**Aspiration hazard**

no data available

**Potential health effects**

<b>Inhalation</b>	May be fatal if inhaled. May cause respiratory tract irritation.
<b>Ingestion</b>	May be fatal if swallowed.
<b>Skin</b>	May be fatal if absorbed through skin. May cause skin irritation.
<b>Eyes</b>	Causes eye burns.

**Signs and Symptoms of Exposure**

Nausea, Headache, Vomiting, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**Additional Information**

RTECS: KK0875000

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**12. ECOLOGICAL INFORMATION**

**12.1 Toxicity**

Toxicity to fish LC50 - Oncorhynchus mykiss (rainbow trout) - 35,6 mg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates LC50 - Daphnia magna (Water flea) - 189 mg/l - 48 h

**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**

Harmful to aquatic life.  
no data available

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**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.

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**14. TRANSPORT INFORMATION****14.1 UN number**

ADR/RID: 1135

IMDG: 1135

IATA: 1135

**14.2 UN proper shipping name**

ADR/RID: ETHYLENE CHLOROHYDRIN

IMDG: ETHYLENE CHLOROHYDRIN

IATA: Ethylene chlorohydrin

Passenger Aircraft: Not permitted for transport

Cargo Aircraft: Not permitted for transport

**14.3 Transport hazard class(es)**

ADR/RID: 6.1 (3)

IMDG: 6.1 (3)

IATA: 6.1 (3)

**14.4 Packaging group**

ADR/RID: I

IMDG: I

IATA: -

**14.5 Environmental hazards**

ADR/RID: no

IMDG Marine Pollutant: no

IATA: no

**14.6 Special precautions for user**

no data available

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**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

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**16. OTHER INFORMATION****Further information**

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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.

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