

## SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 5.1 Revision Date 18.11.2014

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

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

Product name : Trichloroethylene

Product Number : 133124

Brand : Aldrich

Index-No. : 602-027-00-9

REACH No. : A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

CAS-No. : 79-01-6

**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 :

**1.4 Emergency telephone number**

Emergency Phone # :

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**

Skin irritation (Category 2), H315

Eye irritation (Category 2), H319

Germ cell mutagenicity (Category 2), H341

Carcinogenicity (Category 1B), H350

Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336

Chronic aquatic toxicity (Category 3), H412

For the full text of the H-Statements mentioned in this Section, see Section 16.

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

Xi      Irritant

R45  
R68  
R36/38  
R67  
R52/53

For the full text of the R-phrases mentioned in this Section, see Section 16.

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

Pictogram



Signal word

Danger

Hazard statement(s)	
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statement(s)	
P201	Obtain special instructions before use.
P261	Avoid breathing vapours.
P273	Avoid release to the environment.
P281	Use personal protective equipment as required.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.

Supplemental Hazard Statements none

Restricted to professional users.

### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Synonyms : TCE  
Trichloroethene

Formula : C<sub>2</sub>HCl<sub>3</sub>  
Molecular weight : 131,39 g/mol  
CAS-No. : 79-01-6  
EC-No. : 201-167-4  
Index-No. : 602-027-00-9

#### Hazardous ingredients according to Regulation (EC) No 1272/2008

Component	Classification	Concentration
<b>Trichloroethylene</b> Included in the Candidate List of Substances of Very High Concern (SVHC) according to Regulation (EC) No. 1907/2006 (REACH)		
CAS-No. 79-01-6 EC-No. 201-167-4 Index-No. 602-027-00-9	Skin Irrit. 2; Eye Irrit. 2; Muta. 2; Carc. 1B; STOT SE 3; Aquatic Chronic 3; H315, H319, H336, H341, H350, H412	<= 100 %

#### Hazardous ingredients according to Directive 1999/45/EC

Component	Classification	Concentration
<b>Trichloroethylene</b> Included in the Candidate List of Substances of Very High Concern (SVHC) according to Regulation (EC) No. 1907/2006 (REACH)		
CAS-No. 79-01-6 EC-No. 201-167-4 Index-No. 602-027-00-9	T, Carc.Cat.2, Mut.Cat.3, R45 - R36/38 - R52/53 - R67	<= 100 %

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

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## SECTION 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

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

No data available

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## SECTION 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 firefighting if necessary.

### 5.4 Further information

No data available

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## SECTION 6: Accidental release measures

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

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protection see section 8.

### 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

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

### 6.4 Reference to other sections

For disposal see section 13.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

For precautions see section 2.2.

## 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. Handle and store under inert gas.

Storage class (TRGS 510): Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects

## 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Components with workplace control parameters

### 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

Safety glasses with side-shields conforming to EN166 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 contact

Material: Fluorinated rubber

Minimum layer thickness: 0,7 mm

Break through time: 480 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 and safety officer 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).

#### **Control of environmental exposure**

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

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### **SECTION 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: -84,8 °C - lit.
f) Initial boiling point and boiling range	86,7 °C - lit.
g) Flash point	No data available
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper/lower flammability or explosive limits	Upper explosion limit: 10,5 %(V) Lower explosion limit: 8 %(V)
k) Vapour pressure	81,3 hPa at 20,0 °C
l) Vapour density	No data available
m) Relative density	1,463 g/mL at 25 °C
n) Water solubility	No data available
o) Partition coefficient: n-octanol/water	log Pow: 2,29log Pow: 5
p) Auto-ignition temperature	410,0 °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

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### **SECTION 10: Stability and reactivity**

#### **10.1 Reactivity**

No data available

#### **10.2 Chemical stability**

Stable under recommended storage conditions.

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

No data available

#### 10.4 Conditions to avoid

No data available

#### 10.5 Incompatible materials

Oxidizing agents, Strong bases, Magnesium

#### 10.6 Hazardous decomposition products

Other decomposition products - No data available  
In the event of fire: see section 5

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### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

##### Acute toxicity

LD50 Oral - Rat - 4.920 mg/kg

LC50 Inhalation - Mouse - 4 h - 8450 ppm

LD50 Dermal - Rabbit - > 20.000 mg/kg

##### Skin corrosion/irritation

Skin - Rabbit

Result: Severe skin irritation - 24 h

##### Serious eye damage/eye irritation

Eyes - Rabbit

Result: Eye irritation - 24 h

##### Respiratory or skin sensitisation

No data available

##### Germ cell mutagenicity

Laboratory experiments have shown mutagenic effects.

In vitro tests showed mutagenic effects

##### Carcinogenicity

This product is or contains a component that has been reported to be probably carcinogenic based on its IARC, OSHA, ACGIH, NTP, or EPA classification.

Possible human carcinogen

IARC: 1 - Group 1: Carcinogenic to humans (Trichloroethylene)

##### Reproductive toxicity

No data available

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

##### Additional Information

RTECS: Not available

burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, Exposure to and/or consumption of alcohol may increase toxic effects., Gastrointestinal disturbance, Kidney injury may occur., narcosis

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

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## SECTION 12: Ecological information

### 12.1 Toxicity

Toxicity to fish	LC50 - Pimephales promelas (fathead minnow) - 41 mg/l - 96,0 h
	LOEC - other fish - 11 mg/l - 10,0 d
	NOEC - Oryzias latipes - 40 mg/l - 10,0 d
Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) - 18,00 mg/l - 48 h
Toxicity to algae	IC50 - Pseudokirchneriella subcapitata (green algae) - 175,00 mg/l - 96 h

### 12.2 Persistence and degradability

No data available

### 12.3 Bioaccumulative potential

Does not bioaccumulate.

### 12.4 Mobility in soil

No data available

### 12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### 12.6 Other adverse effects

Harmful to aquatic life with long lasting effects.

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

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

#### Contaminated packaging

Dispose of as unused product.

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## SECTION 14: Transport information

### 14.1 UN number

ADR/RID: 1710	IMDG: 1710	IATA: 1710
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### 14.2 UN proper shipping name

ADR/RID: TRICHLOROETHYLENE
IMDG: TRICHLOROETHYLENE
IATA: Trichloroethylene

### 14.3 Transport hazard class(es)

ADR/RID: 6.1	IMDG: 6.1	IATA: 6.1
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### 14.4 Packaging group

ADR/RID: III	IMDG: III	IATA: III
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### 14.5 Environmental hazards

ADR/RID: no	IMDG Marine pollutant: no	IATA: no
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### 14.6 Special precautions for user

No data available

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## SECTION 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

#### Authorisations and/or restrictions on use

Trichloroethylene                      CAS-No.: 79-01-6  
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).  
Carcinogenic (article 57a)  
ED/30/2010

### 15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

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## SECTION 16: Other information

### Full text of H-Statements referred to under sections 2 and 3.

Aquatic Chronic	Chronic aquatic toxicity
Carc.	Carcinogenicity
Eye Irrit.	Eye irritation
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H412	Harmful to aquatic life with long lasting effects.
Muta.	Germ cell mutagenicity

### Full text of R-phrases referred to under sections 2 and 3

T	Toxic
R36/38	Irritating to eyes and skin.
R45	May cause cancer.
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R67	Vapours may cause drowsiness and dizziness.
R68	Possible risk of irreversible effects.

### Further information

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