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SIGMA-ALDRICH

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006
Version 3.0 Revision Date 18.03.2009
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GENERIC EU MSDS - NO COUNTRY SPECIFIC DATA - NO OEL DATA

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product name : 1,1,1-Trichloroethane

Product Number : 02669
Brand : Fluka

Company : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA
Telephone : +18003255832
Fax : +18003255052
Emergency Phone # : (314) 776-6555

2. HAZARDS IDENTIFICATION

Risk advice to man and the environment
Harmful by inhalation. Dangerous for the ozone layer.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : 'Chlorothene'
Methylchloroform

Formula : $C_2H_3Cl_3$

CAS-No.	EC-No.	Index-No.	Classification	Concentration
1,1,1-Trichloroethane				
71-55-6	200-756-3	602-013-00-2	Xn, N, R20 - R59	>= 99,8 %
Low alkyl epoxide				
-	-	-	F, Xn, R11 - R22	<= 0,05 %

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

4. 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.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire-fighters
Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation.

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.

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

7. HANDLING AND STORAGE

Handling
Avoid inhalation of vapour or mist.
Normal measures for preventive fire protection.

Storage
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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal protective equipment

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).

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

Eye protection
Safety glasses

Skin and body protection
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	liquid, clear

Colour	colourless

Safety data

pH	no data available
Melting point	-35 °C
Boiling point	72,0 - 75,0 °C
Flash point	no data available
Ignition temperature	537 °C -
Lower explosion limit	7,5 %(V)
Upper explosion limit	15 %(V)
Vapour pressure	133,3 hPa at 20,0 °C
Density	1,336 g/mL at 20 °C
Water solubility	no data available

10. STABILITY AND REACTIVITY

Storage stability
Stable under recommended storage conditions.

Materials to avoid
Strong oxidizing agents, Potassium, Magnesium, Sodium/sodium oxides, Zinc, Strong bases

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides, Hydrogen chloride gas

Contains the following stabiliser(s):
Low alkyl epoxide (<=0,05 %)

11. TOXICOLOGICAL INFORMATION

Acute toxicity

LD50 Oral - rat - 9.600 mg/kg
Remarks: Cardiac:Pulse rate. Nutritional and Gross Metabolic:Weight loss or decreased weight gain.

LC50 Inhalation - rat - 4 h - 18000 ppm

Irritation and corrosion

Skin - rabbit - Skin irritation - 24 h

Eyes - rabbit - Severe eye irritation - 24 h

Sensitisation

no data available

Chronic exposure

This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (1,1,1-Trichloroethane)

Laboratory experiments have shown mutagenic effects.

Laboratory experiments have shown teratogenic effects.

Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.

Signs and Symptoms of Exposure

burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, Exposure to and/or consumption of alcohol may increase toxic effects., prolonged or repeated exposure can cause:, narcosis, Liver injury may occur., Kidney injury may occur.

Potential Health Effects

Inhalation	Harmful if inhaled. May cause respiratory tract irritation.
Skin	May be harmful if absorbed through skin. May cause skin irritation.
Eyes	May cause eye irritation.
Ingestion	May be harmful if swallowed.
Target Organs	Central nervous system, Cardiovascular system., Liver, Kidney,

12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)

Bioaccumulation	Lepomis macrochirus (Bluegill) - 28 d Bioconcentration factor (BCF): 9

Ecotoxicity effects

Toxicity to fish	LC50 - Pimephales promelas (fathead minnow) - 53,00 mg/l - 96 h
	Growth inhibition NOEC - Cyprinus carpio (Carp) - 7,7 mg/l - 14 d
	LC50 - Pimephales promelas (fathead minnow) - 42,3 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates.	Immobilization EC50 - Daphnia magna (Water flea) - 11,2 mg/l - 48 h

Further information on ecology

Dangerous for the ozone layer.

13. DISPOSAL CONSIDERATIONS

Product
Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

ADR/RID
UN-Number: 2831 Class: 6.1 Packing group: III
Proper shipping name: 1,1,1-TRICHLOROETHANE

IMDG
UN-Number: 2831 Class: 6.1 Packing group: III EMS-No: F-A, S-A
Proper shipping name: 1,1,1-TRICHLOROETHANE
Marine pollutant: No

IATA
UN-Number: 2831 Class: 6.1 Packing group: III
Proper shipping name: 1,1,1-Trichloroethane

15. REGULATORY INFORMATION

Labelling according to EC Directives

EC Label

Hazard symbols

Xn	Harmful
N	Dangerous for the environment

R-phrase(s)

R20	Harmful by inhalation.
R59	Dangerous for the ozone layer.

S-phrase(s)

S24/25	Avoid contact with skin and eyes.
S59	Refer to manufacturer/supplier for information on recovery/recycling.
S61	Avoid release to the environment. Refer to special instructions/ Safety data sheets.

Hazardous components which must be listed on the label:

71-55-6	1,1,1-Trichloroethane

16. OTHER INFORMATION

Text of R-phrases mentioned in Section 3

R11	Highly flammable.
R20	Harmful by inhalation.
R22	Harmful if swallowed.
R59	Dangerous for the ozone layer.

Further information

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