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SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006
Version 3.1 Revision Date 13.05.2010
Print Date 28.06.2010
GENERIC EU MSDS - NO COUNTRY SPECIFIC DATA - NO OEL DATA

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

Product name	:	Carbon tetrachloride
Product Number	:	289116
Brand	:	Aldrich
Company	:	Sigma-Aldrich (Shanghai) Trading Co.,Ltd 22A-B Century Ba-Shi Building, 398 Huai Hai Zhong Road 200020 SHANGHAI CHINA
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E-mail address	:	china@sial.com

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

According to Regulation (EC) No1272/2008
Carcinogenicity (Category 2)
Acute toxicity (Category 3)
Acute toxicity (Category 3)
Acute toxicity (Category 3)
Specific target organ toxicity - repeated exposure (Category 1)
Chronic aquatic toxicity (Category 3)
Hazardous to the ozone layer

According to European Directive 67/548/EEC as amended.
Toxic by inhalation, in contact with skin and if swallowed. Toxic: danger of serious damage to health by prolonged exposure through inhalation. Limited evidence of a carcinogenic effect. Dangerous for the ozone layer. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Label elements

Pictogram

Signal word Danger

Hazard statement(s)

H372	Causes damage to organs through prolonged or repeated exposure.
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H331	Toxic if inhaled.
H351	Suspected of causing cancer.
H412	Harmful to aquatic life with long lasting effects.
EUH059	Hazardous to the ozone layer.

Precautionary statement(s)

P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing.

P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P311	Call a POISON CENTER or doctor/physician.
P501	Dispose of contents/container to an approved waste disposal plant.

Hazard symbol(s)

T	Toxic
N	Dangerous for the environment

R-phrase(s)

R23/24/25	Toxic by inhalation, in contact with skin and if swallowed.
R40	Limited evidence of a carcinogenic effect.
R48/23	Toxic: danger of serious damage to health by prolonged exposure through inhalation.
R59	Dangerous for the ozone layer.
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrase(s)

S23	Do not breathe gas/fumes/vapour/spray.
S36/37	Wear suitable protective clothing and gloves.
S45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S59	Refer to manufacturer/supplier for information on recovery/recycling.
S61	Avoid release to the environment. Refer to special instructions/ Safety data sheets.

Other hazards

Rapidly absorbed through skin.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : Tetrachloromethane

Formula : CCl_4

Molecular Weight : 153,82 g/mol

CAS-No.	EC-No.	Index-No.	Classification	Concentration
Tetrachloromethane				
56-23-5	200-262-8	602-008-00-5	Carc. 2; Acute Tox. 3; STOT RE 1; Aquatic Chronic 3; Ozone ; H372, H301, H311, H331, H351, H412, EUH059 T, N, Carc.Cat.3, R23/24/25 - R40 - R48/23 - R59 - R52/53	-

For the full text of the H-Statements 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. 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
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
Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

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 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.

7. HANDLING AND STORAGE

Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
Normal measures for preventive fire protection.

Conditions for safe 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
Face shield and 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
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	liquid

Safety data

pH	no data available
Melting point	-23 °C - lit.
Boiling point	76 - 77 °C - lit.
Flash point	not applicable
Ignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure	121,3 hPa at 20,0 °C 190,7 hPa at 30,0 °C
Density	1,594 g/cm3 at 25 °C
Water solubility	no data available
Partition coefficient: n-octanol/water	log Pow: 2,83 log Pow: 5

10. STABILITY AND REACTIVITY

Chemical stability
Stable under recommended storage conditions.

Conditions to avoid
no data available

Materials to avoid
Strong oxidizing agents

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

11. TOXICOLOGICAL INFORMATION

Acute toxicity
LD50 Oral - rat - 2.350 mg/kg

LC50 Inhalation - rat - 4 h - 8000 ppm

LD50 Dermal - rabbit - > 20.000 mg/kg

Skin corrosion/irritation
Skin - rabbit - Mild skin irritation - 24 h

Serious eye damage/eye irritation
Eyes - rabbit - Mild eye irritation - 24 h

Respiratory or skin sensitization
no data available

Germ cell mutagenicity

no data available

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.

Limited evidence of carcinogenicity in animal studies

IARC: 2B - Group 2B: Possibly carcinogenic to humans (Tetrachloromethane)

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure
no data available

Specific target organ toxicity - repeated exposure
Inhalation - Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard
no data available

Potential health effects

Inhalation	Toxic if inhaled. May cause respiratory tract irritation.
Ingestion	Toxic if swallowed.
Skin	Toxic if absorbed through skin. May cause skin irritation.
Eyes	May cause eye irritation.

Signs and Symptoms of Exposure
Vomiting, Diarrhoea, Abdominal pain, Nausea, Dizziness, Headache, Damage to the eyes., Liver injury may occur., Kidney injury may occur., Exposure to and/or consumption of alcohol may increase toxic effects.

Additional Information
RTECS: FG4900000

12. ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish	LC50 - Pimephales promelas (fathead minnow) - 42 mg/l - 96,0 h
	LC50 - Lepomis macrochirus (Bluegill) - 27 mg/l - 96,0 h
	NOEC - Oryzias latipes - 70 mg/l - 10,0 d
	LOEC - Pimephales promelas (fathead minnow) - 73,2 mg/l - 7,0 d
Toxicity to daphnia and other aquatic invertebrates.	EC50 - Daphnia magna (Water flea) - 530,00 mg/l - 48 h
	EC50 - Daphnia magna (Water flea) - 35,00 mg/l - 48 h

Persistence and degradability
no data available

Bioaccumulative potential
Does not bioaccumulate.

Bioaccumulation	Lepomis macrochirus (Bluegill) - 21 d Bioconcentration factor (BCF): 30

Mobility in soil
no data available

PBT and vPvB assessment
no data available

Other adverse effects

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Dangerous for the ozone layer.
no data available

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: 1846 Class: 6.1 Packing group: II
Proper shipping name: CARBON TETRACHLORIDE

IMDG
UN-Number: 1846 Class: 6.1 Packing group: II EMS-No: F-A, S-A
Proper shipping name: CARBON TETRACHLORIDE
Marine pollutant: Marine pollutant

IATA
UN-Number: 1846 Class: 6.1 Packing group: II
Proper shipping name: Carbon tetrachloride

15. REGULATORY INFORMATION

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

16. OTHER INFORMATION

Text of H-code(s) and R-phrase(s) mentioned in Section 3

Acute Tox.	Acute toxicity
Aquatic Chronic	Chronic aquatic toxicity
Carc.	Carcinogenicity
EUH059	Hazardous to the ozone layer.
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H331	Toxic if inhaled.
H351	Suspected of causing cancer.
H372	Causes damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.
N	Dangerous for the environment
T	Toxic
R23/24/25	Toxic by inhalation, in contact with skin and if swallowed.
R40	Limited evidence of a carcinogenic effect.
R48/23	Toxic: danger of serious damage to health by prolonged exposure through inhalation.
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R59	Dangerous for the ozone layer.

Further information
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