

**SIGMA-ALDRICH****Material Safety Data Sheet**Version 3.1  
Revision Date 12/03/2009  
Print Date 07/27/2010**1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : 1,1,2,2-Tetrachloroethane

Product Number : 86960  
Brand : Fluka

Company : Sigma-Aldrich  
3050 Spruce Street  
SAINT LOUIS MO 63103  
USA

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**2. COMPOSITION/INFORMATION ON INGREDIENTS**

Synonyms : Acetylene tetrachloride

Formula : C<sub>2</sub>H<sub>2</sub>Cl<sub>4</sub>  
Molecular Weight : 167.85 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
<b>1,1,2,2-Tetrachloroethane</b>			
79-34-5	201-197-8	602-015-00-3	-

**3. HAZARDS IDENTIFICATION****Emergency Overview****OSHA Hazards**

Toxic by inhalation., Toxic by ingestion, Carcinogen

**Target Organs**

Nerves., Liver, Blood

**HMIS Classification**

Health hazard: 2  
Chronic Health Hazard: \*  
Flammability: 0  
Physical hazards: 0

**NFPA Rating**

Health hazard: 4  
Fire: 0  
Reactivity Hazard: 0

**Potential Health Effects**

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

#### 4. FIRST AID MEASURES

##### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

##### 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

##### Flammable properties

Flash point no data available

Ignition temperature no data available

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

##### Storage

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

### Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Update	Basis
1,1,2,2-Tetrachloroethane	79-34-5	TWA	1 ppm	2007-01-01	USA. ACGIH Threshold Limit Values (TLV)
Remarks	Liver damage Confirmed animal carcinogen with unknown relevance to humans: The agent is carcinogenic in experimental animals at a relatively high dose, by route(s) of administration, at site(s), of histologic type(s), or by mechanism(s) that may not be relevant to worker exposure. Available epidemiologic studies do not confirm an increased risk of cancer in exposed humans. Available evidence does not suggest that the agent is likely to cause cancer in humans except under uncommon or unlikely routes or levels of exposure. Danger of cutaneous absorption				
		TWA	1 ppm 7 mg/m <sup>3</sup>	1989-01-19	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
	Skin notation				
		TWA	5 ppm 35 mg/m <sup>3</sup>	1997-08-04	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
	Skin designation The value in mg/m <sup>3</sup> is approximate.				

### 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

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, clear
Colour	colourless

**Safety data**

pH	no data available
Melting point	-43 °C (-45 °F)
Boiling point	147 °C (297 °F)
Flash point	no data available
Ignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure	10.7 hPa (8.0 mmHg) at 20.0 °C (68.0 °F)
Density	1.586 g/mL at 25 °C (77 °F)
Water solubility	no data available

**10. STABILITY AND REACTIVITY****Storage stability**

Stable under recommended storage conditions.

**Materials to avoid**

Strong oxidizing agents, Sodium/sodium oxides, Strong bases, Potassium, Nitrates, 2,4-dinitrophenyl disulfide

**Hazardous decomposition products**

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

**11. TOXICOLOGICAL INFORMATION****Acute toxicity**

LD50 Oral - rat - 200.0 mg/kg

LC50 Inhalation - mouse - 2 h - 4,500 mg/m<sup>3</sup>

**Irritation and corrosion**

no data available

**Sensitisation**

no data available

**Chronic exposure**

This product is or contains a component that has been reported to be possibly 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.

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

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Signs and Symptoms of Exposure**



**IATA**

UN-Number: 1702 Class: 6.1 Packing group: II  
Proper shipping name: 1,1,2,2-Tetrachloroethane

**15. REGULATORY INFORMATION****OSHA Hazards**

Toxic by inhalation., Toxic by ingestion, Carcinogen

**DSL Status**

All components of this product are on the Canadian DSL list.

**SARA 302 Components**

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**

	CAS-No.	Revision Date
1,1,2,2-Tetrachloroethane	79-34-5	2007-07-01

**SARA 311/312 Hazards**

Acute Health Hazard, Chronic Health Hazard

**Massachusetts Right To Know Components**

	CAS-No.	Revision Date
1,1,2,2-Tetrachloroethane	79-34-5	2007-07-01

**Pennsylvania Right To Know Components**

	CAS-No.	Revision Date
1,1,2,2-Tetrachloroethane	79-34-5	2007-07-01

**New Jersey Right To Know Components**

	CAS-No.	Revision Date
1,1,2,2-Tetrachloroethane	79-34-5	2007-07-01

**California Prop. 65 Components**

	CAS-No.	Revision Date
WARNING! This product contains a chemical known in the State of California to cause cancer. 1,1,2,2-Tetrachloroethane	79-34-5	2007-09-28

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

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