

MSDS# 90116

Section 1 - Chemical Product and Company Identification

MSDS Name: Carbon tetrachloride

Catalog Numbers: AC148170000, AC148170250, AC167720000, AC167720010, AC167720025, AC167720100, AC167720100, AC167721000, AC258530000, AC269370000, AC269370010, AC269371000, AC269371000, AC326580000, AC326580010, AC326580025, AC600220000, AC600220010, AC600220010, AC600220025, AC600230000, AC600230010, AC600230025, 14817-0010, 14817-0025, 16772-5000, 25853-0010, 25853-0025, C1874, C1994, NC9267677, NC9472507, NC9835532

Synonyms: Tetrachloromethane; Carbon tet; Carbona; Carbon chloride; Methane tetrachloride.

Company Identification: Fisher Scientific  
One Reagent Lane  
Fair Lawn, NJ 07410

For information in the US, call: 201-796-7100

Emergency Number US: 201-796-7100

CHEMTREC Phone Number, US: 800-424-9300

Section 2 - Composition, Information on Ingredients

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CAS#: 56-23-5

Chemical Name: Carbon tetrachloride

%: 99-100

EINECS#: 200-262-8

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Hazard Symbols:

T N



Risk Phrases:

23/24/25 40 48/23 52/53 59

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Danger! Cancer suspect agent. Aspiration hazard if swallowed. Can enter lungs and cause damage. May cause central nervous system effects. May cause liver and kidney damage. May be fatal if inhaled, absorbed through the skin or swallowed. Marine pollutant. This is a CFC substance which destroys ozone in the upper atmosphere. Destruction of the ozone layer can lead to increased ultraviolet radiation which, with excess exposure to sunlight, can lead to an increase in skin cancer and eye cataracts. Causes eye, skin, and respiratory tract irritation. Target Organs: Kidneys, central nervous system, liver.

Potential Health Effects

Eye: Causes eye irritation. Vapors cause eye irritation.

Skin: Causes skin irritation. May be absorbed through the skin in harmful amounts. Contact with the skin defats the skin.

Ingestion: May cause liver and kidney damage. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure. Substance is a hepatotoxin and is capable of producing a toxic effect on the liver.

Inhalation: Causes respiratory tract irritation. May cause liver and kidney damage. Exposure produces central nervous

system depression. May be harmful if inhaled.

Chronic: Prolonged or repeated skin contact may cause dermatitis. Chronic ingestion may cause effects similar to those of acute ingestion. May cause liver and kidney damage. May cause cancer according to animal studies. Chronic exposure may cause visual disturbances. Carbon tetrachloride is a CNS depressant.

#### Section 4 - First Aid Measures

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid.  
Skin: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid immediately. Wash clothing before reuse.  
Ingestion: Potential for aspiration if swallowed. Get medical aid immediately. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If vomiting occurs naturally, have victim lean forward.  
Inhalation: POISON material. If inhaled, get medical aid immediately. Remove victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.  
Notes to Physician:

#### Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Material will not burn. Use water spray to keep fire-exposed containers cool. Containers may explode in the heat of a fire. Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.  
Extinguishing Media: Use extinguishing media most appropriate for the surrounding fire.

Autoignition Temperature: > 982 deg C (> 1,799.60 deg F)

Flash Point: Not applicable.

Explosion Limits: Lower: Not available

Explosion Limits: Upper: Not available

NFPA Rating: health: 3; flammability: 0; instability: 0;

#### Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.  
Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Isolate area and deny entry. Provide ventilation.

#### Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Do not breathe vapor. Use only with adequate ventilation.  
Storage: Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

#### Section 8 - Exposure Controls, Personal Protection

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Carbon tetrachloride	5 ppm; 10 ppm STEL; Skin - potential significant contribution to overall exposure by the cutaneous route	200 ppm IDLH	10 ppm TWA; 25 ppm Ceiling

OSHA Vacated PELs: Carbon tetrachloride: 2 ppm TWA; 12.6 mg/m3 TWA

## Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits. Use only under a chemical fume hood.

## Exposure Limits

## Personal Protective Equipment

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

## Section 9 - Physical and Chemical Properties

Physical State: Liquid

Color: clear, colorless

Odor: chloroform-like

pH: Not available

Vapor Pressure: 91 mm Hg @ 20 deg C

Vapor Density: 5.31 (air=1)

Evaporation Rate: 12.8 (butyl acetate=1)

Viscosity: 0.97 PAS 20 deg C

Boiling Point: 76 deg C @ 760 mm Hg ( 168.80°F)

Freezing/Melting Point: -23 deg C ( -9.40°F)

Decomposition Temperature:

Solubility in water: Insoluble

Specific Gravity/Density: 1.5900 g/cm<sup>3</sup>

Molecular Formula: CCl<sub>4</sub>

Molecular Weight: 153.82

## Section 10 - Stability and Reactivity

**Chemical Stability:** Stable under normal temperatures and pressures.

**Conditions to Avoid:** Light, excess heat.

**Incompatibilities with Other Materials:** Alkali metals, fluorine, powdered beryllium, powdered aluminum, allyl alcohol, barium, powdered magnesium, decaborane, potassium tert-butoxide, zinc powder, ethylene, dimethylformamide.

**Hazardous Decomposition Products:** Hydrogen chloride, chlorine, phosgene, carbon monoxide, carbon dioxide, chlorine dioxide, which may be spontaneously explosive.

**Hazardous Polymerization:** Will not occur.

## Section 11 - Toxicological Information

**RTECS#:** CAS# 56-23-5: FG4900000

**RTECS:**

**CAS# 56-23-5:** Dermal, guinea pig: LD50 = >9400 uL/kg;

Draize test, rabbit, eye: 2200 ug/30S Mild;

Draize test, rabbit, eye: 500 mg/24H Mild;

Draize test, rabbit, skin: 4 mg Mild;

Draize test, rabbit, skin: 500 mg/24H Mild;

Inhalation, mouse: LC50 = 9526 ppm/8H;

Inhalation, mouse: LC50 = 34500 mg/m<sup>3</sup>/2H;

Inhalation, rat: LC50 = 8000 ppm/4H;

**LD50/LC50:** Inhalation, rat: LC50 = 46000 mg/m<sup>3</sup>/6H;

Oral, mouse: LD50 = 7749 mg/kg;

Oral, rabbit: LD50 = 5760 mg/kg;

Oral, rat: LD50 = 2350 mg/kg;  
Skin, rabbit: LD50 = >20 gm/kg;  
Skin, rat: LD50 = 5070 mg/kg;

Other: Carbon tetrachloride is harmful to the liver and a CNS depressant following short-term inhalation, skin contact or ingestion. The liver effects have been observed at concentrations lower than those required to produce CNS effects. Two reviews indicate that ingestion of 14-20 ml or 50-150 ml could be fatal. Although, 1.5 ml (34 mg/kg) has caused death in a few cases.

Carcinogenicity: Carbon tetrachloride - ACGIH: A2 - Suspected Human Carcinogen California: carcinogen, initial date 10/1/87 NTP: Suspect carcinogen IARC: Group 2B carcinogen

Other: See actual entry in RTECS for complete information.

#### Section 12 - Ecological Information

Ecotoxicity: Fish: Fathead Minnow: LC50 = 20.8-41.4 mg/L; 96 Hr.; Flow-through; 21.7 degrees C  
Fish: Bluegill/Sunfish: LC50 = 27-125 mg/L; 96 Hr.; Static Conditions; 23 degrees C  
Bacteria: Phytobacterium phosphoreum: EC50 = 6.0 mg/L; Not available; Microtox test  
Bacteria: Phytobacterium phosphoreum: EC50 = 33.0 mg/L; 30 minutes; Microtox test

#### Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

#### Section 14 - Transport Information

US DOT

Shipping Name: CARBON TETRACHLORIDE

Hazard Class: 6.1

UN Number: UN1846

Packing Group: II

Canada TDG

Shipping Name: CARBON TETRACHLORIDE

Hazard Class: 6.192

UN Number: UN1846

Packing Group: II

USA RQ: CAS# 56-23-5: 10 lb final RQ; 4.54 kg final RQ

#### Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: T N

Risk Phrases:

R 23/24/25 Toxic by inhalation, in contact with skin and if swallowed.

R 40 Limited evidence of a carcinogenic effect.

R 48/23 Toxic : danger of serious damage to health by prolonged exposure through inhalation.

R 52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R 59 Dangerous for the ozone layer.

Safety Phrases:

S 23 Do not inhale gas/fumes/vapour/spray.

S 36/37 Wear suitable protective clothing and gloves.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S 59 Refer to manufacturer/supplier for information on recovery/recycling.

S 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

WGK (Water Danger/Protection)

CAS# 56-23-5: 3

Canada

CAS# 56-23-5 is listed on Canada's DSL List

Canadian WHMIS Classifications: D2A, D1A

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

CAS# 56-23-5 is listed on Canada's Ingredient Disclosure List

US Federal

TSCA

CAS# 56-23-5 is listed on the TSCA  
Inventory.

Section 16 - Other Information

MSDS Creation Date: 7/20/1999

Revision #8 Date 7/20/2009

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.

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