



Material Safety Data Sheet

1. Product and Company Identification

Product name : **Carbon Tetrachloride**

Chemical formula : CCl₄

Synonyms : Tetrachloromethane; Perchloromethane; Carbon Chloride (CCl₄); Benzinofom; R 10 (Refrigerant); UN 1846

Company : Specialty Gases of America, Inc
6055 Brent Dr.
Toledo, OH 43611

Telephone : 419-729-7732

Emergency : 800-424-9300

2. Composition/Information on Ingredients

Components	CAS Number	% Volume
Carbon Tetrachloride	56-23-5	100%

3. Hazards Identification

Emergency Overview

May cause central nervous system depression, suspect cancer hazard (in animals)

Potential Health Effects

Inhalation : Irritation, digestive disorders, headache, drowsiness, dizziness, loss of coordination, lung congestion, effects on the brain, convulsions, coma. May cause irritation, digestive disorders, headache, drowsiness, dizziness, loss of coordination, visual disturbances, lung congestion, kidney damage, liver damage, reproductive effects, effects on the brain, convulsions, coma, cancer in long term exposure.

Eye contact : Irritation.

Skin contact : Irritation, rash, absorption may occur, digestive disorders, headache, drowsiness, dizziness, loss of coordination, lung congestion, effects on the brain, convulsions, coma. May cause visual disturbances, kidney damage, liver damage, reproductive effects, cancer in long term exposure.

Ingestion : Irritation, digestive disorders, headache, drowsiness, dizziness, loss of coordination, lung congestion, effects on the brain, convulsions, coma. May cause kidney damage, liver damage, cancer in long term exposure.

Chronic Health Hazard : None.

4. First Aid Measures

General advice : None.

Eye contact : Immediately flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

- Skin contact : Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get immediate medical attention. Thoroughly clean and dry contaminated clothing and shoes before reuse.
- Ingestion : If swallowed, drink plenty of water, do NOT induce vomiting. Get immediate medical attention. Induce vomiting only at the instructions of a physician. Do not give anything by mouth to unconscious or convulsive person.
- Inhalation : If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.
- Note to physicians : For ingestion, consider gastric lavage.

5. Fire-Fighting Measures

- Suitable extinguishing media : Regular dry chemical, regular foam, water.
Large fires: Use regular foam or flood with fine water spray.
- Specific hazards : Slight fire hazard.
- Fire fighting : Move container from fire area if it can be done without risk. Fight large fires from a protected location or safe distance. Stay away from the ends of tanks. Dike for later disposal. Do not scatter spilled material with high-pressure water streams. Do not attempt to extinguish fire unless flow of material can be stopped first. Use extinguishing agents appropriate for surrounding fire. Flood with fine water spray. Cool containers with water spray until well after the fire is out. Apply water from a protected location or from a safe distance. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Consider downward evacuation if material is leaking.

6. Accidental Release Measures

- Air release : Reduce vapors with water spray. Stay upwind and keep out of low areas.
- Soil release : Trap spilled material at bottom in deep water pockets, excavated holding areas or within sand bag barriers. Dike for later disposal. Absorb with sand or other non-combustible material. Collect with absorbent into suitable container.
- Water release : Subject to California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65). Keep out of water supplies and sewers. Trap spilled material at bottom in deep water pockets, excavated holding areas or within sand bag barriers. Remove trapped material with suction hoses. Absorb with activated carbon. Collect spilled material using mechanical equipment.
- Occupational spill/release : Do not touch spilled material. Stop leak if possible without personal risk. Reduce vapors with water spray. Small spills: Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal. Small dry spills: Move containers away from spill to a safe area. Large spills: Dike for later disposal. Keep unnecessary people away. Isolate hazard area and deny entry. Ventilate closed spaces before entering. Notify Local Emergency Planning Committee and State Emergency Response Commission for release greater than or equal to RQ (U.S. SARA Section 304). If release occurs in the U.S. and is reportable under CERCLA Section 103, notify the National Response Center at (800)424-8802 (USA) or (202)426-2675 (USA).
- Additional advice : None.

7. Handling and Storage

Handling

Subject to handling regulations: U.S. OSHA 29 CFR 1910.119.

Storage

Store in accordance with all current regulations and standards. Protect from physical damage. Store in a cool, dry place. Store in a well-ventilated area. Avoid heat, flames, sparks and other sources of ignition. Keep separated from incompatible substances.

8. Exposure Controls / Personal Protection

Exposure limits

ACGIH	:	5 ppm TWA 10 ppm STEL Skin – potential significant contribution to overall exposure by the cutaneous route
OSHA (final)	:	10 ppm TWA 25 ppm Ceiling
OSHA (vacated)	:	2 ppm TWA; 12.6 mg/m ³ TWA
NIOSH	:	2 ppm STEL 60 min; 12.6 mg/m ³ STEL 60 min

IDLH

200 ppm

Engineering measures/Ventilation

Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

Personal protective equipment

Respiratory protection	:	The following respirators and maximum use concentrations are drawn from NIOSH and/or OSHA. At any detectable concentration – Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode. Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode. Escape – Any air-purifying full-face respirator (gas mask) with a chin-style, front-mounted or back-mounted canister providing protection against the compound of concern. Any appropriate escape-type, self-contained breathing apparatus. For unknown concentrations or immediately dangerous to life or death – Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode. Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.
Hand protection	:	Wear appropriate chemical resistant gloves.
Eye protection	:	Wear splash resistant safety goggles. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.
Skin and body protection	:	Wear appropriate chemical resistant clothing.

9. Physical and Chemical Properties

Form	:	Liquid.
Color	:	Colorless.
Odor	:	Distinct odor.
Molecular weight	:	153.82

Vapor pressure	: 91.3 mmHg @ 20°C
Vapor density	: 5.32 (air = 1)
Boiling point	: 77°C
Melting point	: -23°C
Water solubility	: 0.08% @ 20°C
Specific gravity	: 1.5940 (water = 1)
Evaporation rate	: 12.8 (Butyl acetate = 1)
Solvent solubility	: Soluble: alcohol, benzene, chloroform, ether, carbon disulfide, petroleum ether, naphtha, acetone, fixed & volatile oils

10. Stability and Reactivity

Stability	: Stable under normal conditions.
Conditions to avoid	: Avoid heat, flames, sparks or other sources of ignition. Containers may rupture or explode if exposed to heat.
Materials to avoid	: Combustible materials, material salts, peroxides, halogens, oxidizing materials, metals, bases, amines.
Hazardous decomposition products	: Thermal decomposition products: phosgene, halogenated compounds, oxides of carbon.

11. Toxicological Information

The components of this material have been reviewed in various sources and the following endpoints are published:

CARBON	: Inhalation LC50 Rat: 8000 ppm/4H; Oral LD50 Rat: 2350 mg/kg; Dermal LD50
TETRACHLORIDE (56-23-5)	: Rat: 5070 mg/kg

Acute Toxicity Level

CARBON	: Moderately toxic: Ingestion
TETRACHLORIDE (56-23-5)	: Slightly toxic: Inhalation, dermal absorption

Component Carcinogenicity

ACGIH	: A2 – Suspected Human Carcinogen
IARC	: Monograph 71 [1999]; Supplement 7 [1987]; Monograph 20 [1979] (Group 2B (possibly carcinogenic to humans))
DFG	: Category 4 (no significant contribution to human cancer) Present Reasonably Anticipated To Be A Human Carcinogen

Target Organs

CARBON	: Central nervous system, liver, kidneys.
TETRACHLORIDE (56-23-5)	

Medical Conditions Aggravated by Exposure

History of alcoholism, alcoholism.

Additional Data

May cross the placenta. May be excreted in breast milk. Alcohol may enhance the toxic effects. Stimulants such as epinephrine may induce ventricular fibrillation.

12. Ecological Information

Aquatic Toxicity

CARBON : Fish: 96 Hr LC50 Pimephales promelas: 36.3 – 47.3 mg/L [flow-through]; 96 Hr
TETRACHLORIDE : LC50 Pimephales promelas: 9.68 – 11.3 mg/L [static]; 96 Hr LC50 Lepomis
(56-23-5) : macrochirus: 23 – 33 mg/L [static]
Algae: 24 Hr EC50 Tetrahymena pyriformis: 830 mg/L
Invertebrate: 24 Hr EC50 Daphnia magna: 28 mg/L; 48 Hr EC50 Daphnia
magna: 29 mg/L

13. Disposal Considerations

Waste from residues : Dispose in accordance with all applicable regulations. Subject to disposal
/ unused products regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): U211.
Hazardous Waste Number(s): D019. Dispose in accordance with U.S. EPA 40
CFR 262 for concentrations at or above the Regulatory level. Regulatory level –
0.5 mg/L.

Contaminated : Return cylinder to supplier.
packaging

Component Waste : RCRA: waste_number U211
Numbers : 0.5 mg/L regulatory level

14. Transport Information

DOT (US only)

Proper shipping : Carbon tetrachloride
name
Class : 6.1, Packing Group II
UN/ID No. : UN1846
Labeling : Poison

Component Marine Pollutants

This material contains one or more of the following chemicals required by U.S. DOT to be identified as marine pollutants.

Component	CAS	
CARBON TETRACHLORIDE	56-23-5	DOT regulated marine pollutant

15. Regulatory Information

U.S. Federal Regulations

This material contains one or more of the following chemicals required under SARA Section 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

CARBON : 10 lb final RQ; 4.54 kg final RQ
TETRACHLORIDE : SARA 313: 0.1% de minimis concentration
(56-23-5) : CERCLA: 10 lb final RQ; 4.54 kg final RQ

SARA 311/312

Acute: Yes
Chronic: Yes
Fire: No
Reactive: No
Pressure: No

U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
CARBON TETRACHLORIDE	56-23-5	Yes	Yes	Yes	Yes	Yes	Yes

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

WARNING! This product contains a chemical known to the state of California to cause cancer.

16. Other Information

Prepared by : Specialty Gases of America, Inc.

For additional information, please visit our website at www.americangasgroup.com.