

# SAFETY DATA SHEET



1000 Tedia Way  
Fairfield, Ohio 45014  
USA  
Email: [tedia@tedia.com](mailto:tedia@tedia.com)  
Web: [www.tedia.com](http://www.tedia.com)

## 24-Hour Emergency Number (CHEMTREC)

USA: 800-424-9300  
International: 703-527-3887

All non-emergency numbers should be directed  
to Customer Service at 800-PURITY1

## TETRACHLOROETHYLENE

SDS No. M0190

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Tetrachloroethylene

Synonyms: Ethylene Tetrachloride; Tetrachloroethene; Perchloroethylene; Carbon Bichloride; Carbon Dichloride

Recommended Use: This product is recommended for laboratory and manufacturing use only. It is not recommended for drug, food or household use.

### 2. HAZARDS IDENTIFICATION



#### **Classification:**

Skin Irritation: GHS Category 2

Carcinogenicity: GHS Category 2

Acute Aquatic Toxicity: GHS Category 2

Chronic Aquatic Toxicity: GHS Category 2

#### **Label Elements**

Signal Word: DANGER!

#### Hazard Statements:

H315 – Causes skin irritation.

H351 – Suspected of causing cancer.

H411 – Toxic to aquatic life with long lasting effects.

#### Precautionary Statements:

P273 – Avoid release to the environment.

P280 – Wear protective gloves/protective clothing/eye protection/face protection.

P303+P361+P353 – If on skin or hair: Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.

#### **Emergency Overview**

May cause respiratory tract irritation. Causes eye and skin irritation. Can enter lungs and cause damage. Aspiration hazard. Suspected cancer hazard. Toxic to aquatic organisms, May cause long lasting environmental damage. Target Organs: Blood, spleen, lungs, eyes, skin, digestive system, central nervous system, liver, and kidneys.

HMIS Rating:

Health – 1\* Flammability – 0 Physical Hazard – 1 PPE – User supplied

NOTE: HMIS ratings use a numbering scale that ranges from 0 - 4 to indicate the degree of hazard. A value of zero means the chemical presents no hazard while a value of four indicates a high hazard. These ratings are based on the inherent properties of this chemical under expected conditions of normal use and are not intended to be used in emergency situations. PPE is determined by the user based on their needs and conditions.

**3. COMPOSITION AND INFORMATION ON INGREDIENTS**

<u>Ingredient</u>	<u>CAS No</u>	<u>Percent</u>	<u>Hazardous</u>
Tetrachloroethylene	127-18-4	>99%	Yes

**4. FIRST-AID MEASURES**

Inhalation: If inhaled, remove to fresh air. If breathing is labored or with coughing, give 100% supplemental oxygen. If not breathing, begin artificial respiration. Do not use mouth to mouth resuscitation. Use mechanical device or shield. Get medical aid.

Ingestion: Potential aspiration hazard. Get medical attention. Do not induce vomiting. If vomiting occurs naturally, have victim lean forward. Never give anything by mouth to an unconscious person.

Skin Contact: Get medical attention. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

Eye Contact: Check for and remove contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

Notes to Physician: Treat symptomatically and supportively.

**5. FIRE FIGHTING MEASURES**

Flammability: Non-combustible.

Products of Combustion: May decompose into highly toxic and irritating gases under fire conditions.

Specific Fire Hazards: As in any fire, always wear self-contained breathing apparatus in pressure-demand (MSA/NIOSH approved or equivalent), and full protective gear. Use water spray to keep fire exposed containers cool. Approach fire from upwind to avoid hazardous vapors and toxic decomposition products. Vapors can spread along the ground and collect in low or confined areas.

Specific Explosion Hazards: NA

Fire Fighting Media: Use extinguishing media appropriate to the surrounding fire..

Special Remarks: None

National Fire Protective Association: Health - 1, Flammability - 0, Reactivity – 1

NOTE: NFPA ratings use a numbering scale that ranges from 0 - 4 to indicate the degree of hazard. A value of zero means the chemical presents no hazard while a value of four indicates a high hazard. They are for use by emergency personnel to address the hazards that are presented by short term, acute exposure to this product under fire, spill, or similar emergencies. Ratings involve data and interpretations that may vary from company to company.

**6. ACCIDENTAL RELEASE MEASURES**

Absorb spilled liquid with sorbent pads, socks, or other inert material such as vermiculite, sand, or earth. Provide ventilation to the affected area. Avoid run-off into storm sewers and ditches that lead to waterways. Approach the spill from upwind and pick up absorbed material and place it in a suitable container. Always use proper personal protective equipment as described in section 8.

**7. HANDLING AND STORAGE**

Precautions: Always use proper personal protective equipment as described in section 8. Wash thoroughly after handling. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation of vapors and mist. Remove contaminated

clothing and wash before reuse. Keep container tightly closed. Ground and bond containers while transferring material. Empty containers contain product residue and vapors and may be hazardous. Use only with adequate ventilation.

Storage: Keep away from oxidizing materials. Keep in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Store under a nitrogen blanket

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Facilities storing or using the material should be equipped with eyewash station and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Personal Protection: Wear protective chemical goggles or appropriate eye protection. Use appropriate protective gloves and protective clothing to prevent skin exposure. A respiratory protection program that meets OSHA 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever possible. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Exposure Limits:

ACGIH – 25 ppm TWA; 100ppm STEL

NIOSH – 150 ppm IDLH

OSHA Final PELs –100 ppm TWA; 200 ppm Ceiling

OSHA Vacated PELs: 25 ppm TWA; 170 mg/m<sup>3</sup> TWA

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State and Appearance: Clear, colorless liquid.

Odor: Sweetish odor

Molecular Formula: Cl<sub>2</sub>C:CCl<sub>2</sub>

Molecular Weight: 165.83

Auto-ignition Temperature: NA

Flash Point: NA

Flammable Limits: NA

pH: Not available.

Boiling Point: 120-122° C

Freezing/Melting Point: -22° C

Decomposition Temperature: Not available

Specific Gravity: 1.625 (Water=1)

Vapor Density (Air=1): 5.8

Vapor Pressure: 18 mm Hg @ 20° C.

Evaporation Rate (Diethyl Ether=1): 6.0

Viscosity: 0.89 mPa @ 20° C

Solubility: 15g/L (20°C)

## 10. STABILITY AND REACTIVITY

Stability: Light and heat sensitive.

Conditions to Avoid: Incompatible materials, light, excess heat, temperatures above 150°C.

Incompatibility With Various Substances: Strong oxidizers and strong bases.

Hazardous Decomposition Products: Hydrogen chloride, phosgene, carbon monoxide, carbon, dioxide.

Hazardous Polymerization: Will not occur.

## 11. TOXICOLOGICAL INFORMATION

Routes of Entry: Inhalation, skin absorption, skin contact

Acute Exposure Hazards:

INHALATION HAZARD: May be harmful if inhaled. May cause respiratory tract irritation. May cause central nervous system effects including vertigo, anxiety, depression, muscle incoordination, and mental instability.

INGESTION HAZARD: Aspiration hazard. May cause lung damage. May cause central nervous system depression, kidney damage, and liver damage. May cause gastrointestinal irritation with nausea, vomiting and diarrhea.

SKIN CONTACT HAZARD: Causes severe skin irritation. May harmful if absorbed through skin.

EYE CONTACT HAZARD: Causes eye irritation, redness, and pain.

Chronic Exposure Hazards: Repeated exposure may cause blood effects and damage to the spleen. Suspected cancer agent. Lab studies have demonstrated mutagenic effects. Animal studies have resulted in the development of tumors.

Animal Toxicity:

Inhalation, rat: LC50 =34,200 mg/m<sup>3</sup>/8H;

Oral, rat: LD50 = 2629 mg/kg;

Skin, rabbit: LD50 = 5000 mg/kg;

Carcinogenicity:

ACGIH: A3 – confirmed animal carcinogen with unknown relevance to humans

California: carcinogen, initial date 4/1/88

NTP: suspect carcinogen

IARC: Group 2A carcinogen

Epidemiology: No data available.

Teratogenicity: No data available.

Reproductive Effects: No data available.

Mutagenicity: No data available.

Neurotoxicity: No data available.

## 12. ECOLOGICAL INFORMATION

Ecotoxicity:

Fish: Rainbow trout: 5.28 mg/L; 96hr, static, 12°C,

Fish: Bluegill sunfish: 18.4 mg/L; 96-hr, flow-through

Fish: Fathead minnow: 12.9 mg/L; 96-hr, static

Environmental Fate: Do not empty into drains

## 13. DISPOSAL CONSIDERATIONS

Material that cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Processing, use or contamination of this product may change the waste management options. Waste generators must decide if discarded material is a hazardous waste. State and local disposal regulations may differ from federal disposal definitions found in 40 CFR 261.3. Dispose of container and unused contents in accordance with federal, state and local requirements. This material is a "U" listed waste under 40 CFR 261.33 (U210).

## 14. TRANSPORT INFORMATION

US DOT

Proper Shipping Name: Tetrachloroethylene

Hazard Class: 6.1

UN Number: UN1897

Packing Group: III

IMDG

Proper Shipping Name: Tetrachloroethylene

Hazard Class: 6.1

UN Number: UN1897

Packing Group: III

Marine Pollutant

IATA

Proper Shipping Name: Tetrachloroethylene

Hazard Class: 6.1

UN Number: UN1897

Packing Group: III

**15. REGULATORY INFORMATION**US Federal Regulations:

CERCLA Hazardous Substances: CAS# 127-18-4 – 100 lb final RQ; 45.4 kg final RQ

SARA Section 302: Does not have a TPQ

SARA Codes: CAS# 127-18-4 – acute, chronic

Section 313: Tetrachloroethylene (CAS# 127-18-4) is subject to SARA Title III Section 313 and 40 CFR 373 reporting requirements.

Clean Air Act: CAS# 127-18-4 is listed as a hazardous air pollutant (HAP).

Clean Water Act: CAS# 127-18-4 is listed as a Hazardous Substance. It is a Priority Pollutant. It is a Toxic Pollutant.

OSHA: Not considered highly hazardous by OSHA.

US State Regulations:

CAS# 107-06-2 is on the following state right-to-know lists: New Jersey, Pennsylvania, and Massachusetts.

California Prop 65: This product contains Tetrachloroethylene, a chemical known to the State of California to cause cancer.

**16. OTHER INFORMATION**

Originally Prepared: 3/23/2006

Last Revised: 11/24/2014 – Updated pictograms, hazard categories, hazard statements, and precautionary statements in Section 12, incompatibilities in Section 10, and toxicology information in Section 11.

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