

Common Name: **1,1,2,2-TETRACHLOROETHANE**

Synonyms: Acetylene Tetrachloride; Tetrachloroethane

CAS No: 79-34-5

 Molecular Formula: C₂H₂Cl₄

RTK Substance No: 1809

Description: Clear, colorless to pale yellow liquid with a sweet odor

HAZARD DATA

Hazard Rating	Firefighting	Reactivity
3 - Health 0 - Fire 0 - Reactivity DOT#: UN 1702 ERG Guide #: 151 Hazard Class: 6.1 (Poison)	Extinguish fire using an agent suitable for type of surrounding fire. 1,1,2,2-Tetrachloroethane itself does not burn. POISONOUS GASES ARE PRODUCED IN FIRE, including <i>Phosgene</i> and <i>Hydrogen Chloride</i> . Use water spray to keep fire-exposed containers cool.	1,1,2,2-Tetrachloroethane is decomposed by HEAT, AIR, ULTRAVIOLET LIGHT and MOISTURE to form toxic <i>Hydrogen Chloride</i> and <i>Phosgene</i> gases. 1,1,2,2-Tetrachloroethane reacts violently with ALKALI METALS (such as LITHIUM, SODIUM and POTASSIUM) and their ALLOYS to produce <i>Chloroacetylene</i> and <i>Dichloroacetylene</i> gases that can ignite or explode in AIR. 1,1,2,2-Tetrachloroethane reacts violently with STRONG BASES (such as SODIUM HYDROXIDE and POTASSIUM HYDROXIDE) and POWDERED METALS. 1,1,2,2-Tetrachloroethane is not compatible with OXIDIZING AGENTS (such as PERCHLORATES, PEROXIDES, PERMANGANATES, CHLORATES, NITRATES, CHLORINE, BROMINE and FLUORINE); FUMING SULFURIC ACID; and AMINES.

SPILL/LEAKS

Isolation Distance:

Spill: 50 meters (150 feet)

Fire: 800 meters (1/2 mile)

Absorb liquids in vermiculite, dry sand, earth, or a similar material and place into sealed containers for disposal.

DO NOT wash into sewer.

1,1,2,2-Tetrachloroethane is a marine pollutant.

PHYSICAL PROPERTIES

Odor Threshold:	0.5 to 1.5 ppm
Flash Point:	Noncombustible
Vapor Density:	5.79 (air = 1)
Vapor Pressure:	5 mm Hg at 65°F (20°C)
Specific Gravity:	1.6 (water = 1)
Water Solubility:	Very slightly soluble
Boiling Point:	295°F (146°C)
Freezing Point:	-33°F (-44°C)
Ionization Potential:	11.1 eV
Molecular Weight:	167.86

EXPOSURE LIMITS

OSHA: 5 ppm, 8-hr TWA

NIOSH: 1 ppm, 10-hr TWA

ACGIH: 1 ppm, 8-hr TWA

IDLH: 100 ppm

The Protective Action Criteria values are:

PAC-1 = 3 ppm PAC-2 = 30 ppm PAC-3 = 100 ppm

PROTECTIVE EQUIPMENT

Gloves:	Polyvinyl Alcohol and Viton (>8-hr breakthrough)
Coveralls:	Tychem® BR, Responder® and TK (>8-hr breakthrough)
Respirator:	>1 ppm - SCBA

HEALTH EFFECTS

Eyes:	Irritation and burns
Skin:	Irritation and burns
Inhalation:	Nose, throat and lung irritation, with coughing, and severe shortness of breath (pulmonary edema) Headache, nausea, vomiting and fatigue
Chronic:	Cancer (liver) in animals

FIRST AID AND DECONTAMINATION

Remove the person from exposure.

Flush eyes with large amounts of water for at least 15 minutes. Remove contact lenses if worn. Seek medical attention.

Quickly remove contaminated clothing and wash contaminated skin with large amounts of soap and water.

Begin artificial respiration if breathing has stopped and CPR if necessary.

Transfer promptly to a medical facility.

Medical observation is recommended as symptoms may be delayed.