

Common Name: **1,1,1,2-TETRACHLORO-2,2-DIFLUOROETHANE**

Synonyms: CFC112a; Halocarbon 112a; Refrigerant 112a

CAS No: 76-11-9

Molecular Formula: C₂Cl₄F₂

RTK Substance No: 1807

Description: Colorless, crystalline solid with an *Ether*-like odor at room temperature, or a liquid above 105°F (41°C)

HAZARD DATA

Hazard Rating	Firefighting	Reactivity
2 - Health 0 - Fire 0 - Reactivity DOT#: None ERG Guide #: None Hazard Class: None	<p>Extinguish fire using an agent suitable for type of surrounding fire. 1,1,1,2-Tetrachloro-2,2-Difluoroethane itself does not burn.</p> <p>POISONOUS GASES ARE PRODUCED IN FIRE, including <i>Hydrogen Chloride</i>, <i>Hydrogen Fluoride</i> and <i>Phosgene</i>.</p> <p>Use water spray to keep fire-exposed containers cool.</p>	<p>1,1,1,2-Tetrachloro-2,2-Difluoroethane reacts with CHEMICALLY ACTIVE METALS (such as POTASSIUM, SODIUM, MAGNESIUM and ZINC).</p> <p>1,1,1,2-Tetrachloro-2,2-Difluoroethane may react with STRONG ACIDS (such as HYDROCHLORIC, SULFURIC and NITRIC) and ACID FUMES to release toxic <i>Fluoride fumes</i>.</p>

SPILL/LEAKS

Isolation Distance:

Solid Spill: 25 meters (75 feet)

Liquid Spill: 50 meters (150 feet)

Fire: 800 meters (1/2 mile)

Collect solid material in the most convenient and safe manner and place into sealed containers for disposal.

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

1,1,1,2-Tetrachloro-2,2-Difluoroethane does not degrade in the atmosphere.

PHYSICAL PROPERTIES

Odor Threshold:	<i>Ether</i> -like odor
Flash Point:	Noncombustible
Vapor Pressure:	40 mm Hg at 68°F (20°C)
Specific Gravity:	1.65 (water = 1)
Water Solubility:	Insoluble
Boiling Point:	197°F (91.7°C)
Melting Point:	105°F (41°C)
Ionization Potential:	11.30 eV
Molecular Weight:	203.83

EXPOSURE LIMITS

OSHA:	500 ppm, 8-hr TWA
NIOSH:	500 ppm, 10-hr TWA
ACGIH:	100 ppm, 8-hr TWA
IDLH:	2,000 ppm

PROTECTIVE EQUIPMENT

Gloves:	Viton and Barrier® (>4-hr breakthrough for <i>liquid Hydrocarbons, aliphatic</i>)
Coveralls:	Tychem® BR, Responder® and TK; and Trelchem® HPS and VPS (>8-hr breakthrough for <i>liquid Hydrocarbons, aliphatic</i>)
Respirator:	>100 ppm - SCBA

HEALTH EFFECTS

Eyes:	Irritation
Skin:	Irritation and rash
Inhalation:	<p>Nose, throat and lung irritation, with coughing, and severe shortness of breath (pulmonary edema)</p> <p>Exposure can cause headache, dizziness, confusion, tremors, lightheadedness, and passing out</p>

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.
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.