Right to Know Hazardous Substance Fact Sheet

Emergency Responders Quick Reference

Common Name: **TRICHLOROETHYLENE**

Synonyms: Ethylene Trichloride; TCE; Trichloroethene
CAS No: 79-01-6
Molecular Formula: C_2HCl_3
RTK Substance No: 1890
Description: Clear, colorless liquid with a sweet, *Chloroform-like* odor

HAZARD DATA

Hazard Rating

3 - Health

1 - Fire

0 - Reactivity

DOT#: UN 1710

ERG Guide #: 160

Hazard Class: 6.1 (Poison)

Firefighting

Trichloroethylene may burn, but does not readily ignite.

Use dry chemical, CO_2, water spray or alcohol-resistant foam as extinguishing agents.

POISONOUS GASES ARE PRODUCED IN FIRE, including *Hydrogen Chloride* and *Phosgene*.

CONTAINERS MAY EXPLODE IN FIRE.

Use water spray to keep fire-exposed containers cool.

Use water spray to reduce vapors.

Trichloroethylene accumulates static charge.

Reactivity

Trichloroethylene will react explosively with *finely divided* or *powdered* BARIUM, BERYLLIUM, and MAGNESIUM.

Trichloroethylene reacts with ACTIVE METALS (such as LITHIUM, SODIUM and TITANIUM) to cause flashing and sparks.

Trichloroethylene will react with STRONG BASES (such as SODIUM HYDROXIDE and POTASSIUM HYDROXIDE) and EPOXIDES to form spontanously flammable *Dichloroacetylene*.

Trichloroethylene is not compatible with STRONG ACIDS (such as HYDROCHLORIC, SULFURIC and NITRIC); ISOCYANATES; EPICHLOROHYDRIN; ALCOHOLS; and GLYCOLS.

SPILL/LEAKS

Isolation Distance:

Spill: 50 meters (150 feet)

Fire: 800 meters (1/2 mile)

Absorb liquids in vermiculite, dry sand, earth, fly ash or cement powder and place into sealed containers for disposal.

DO NOT wash into sewer.

Use only non-sparking tools and equipment, especially when opening and closing containers of **Trichloroethylene**.

Metal containers should be grounded and bonded as **Trichloroethylene** accumulates static charge.

Trichloroethylene is slightly toxic to aquatic life.

PHYSICAL PROPERTIES

Odor Threshold:	1.4 ppm
Flash Point:	>200°F (93°C)
LEL:	8%
UEL:	10.5%
Auto Ignition Temp:	788°F (420°C)
Vapor Density:	4.5 (air = 1)
Vapor Pressure:	58 mm Hg at 68°F (20°C)
Specific Gravity:	1.5 (water = 1)
Water Solubility:	Slightly soluble
Boiling Point:	189°F (87°C)
Melting Point:	-99°F (-73°C)
Ionization Potential:	9.5 eV
Molecular Weight:	131.4

EXPOSURE LIMITS

ACGIH: 10 ppm, 8-hr TWA; 25 ppm, 15-min STEL

IDLH: 1,000 ppm

The Protective Action Criteria values are:

PAC-1 = 130 ppm
PAC-2 = 450 ppm
PAC-3 = 3,800 ppm

PROTECTIVE EQUIPMENT

Gloves: Silver Shield®/4H®, Viton and Barrier® (>8-hr breakthrough)

Coveralls: Tychem® F, BR, LV, Responder®, and TK; Zytron® 500; ONESuit® TEC; and Trellchem® HPS and VPS (>8-hr breakthrough)

Respirator: >10 ppm - Supplied air or SCBA

HEALTH EFFECTS

Eyes: Irritation and burns

Skin: Irritation and burns

Inhalation: Headache, dizziness, lightheadedness, visual disturbances, nausea and vomiting, and passing out

Chronic: Cancer (liver, kidney, and lung) 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. Seek medical attention.

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

Transfer promptly to a medical facility.