

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

Synonyms: 1,2-DCE; Ethylene Dichloride

CAS No: 107-06-2

Molecular Formula: C₂H₄Cl₂

RTK Substance No: 0652

Description: Clear, colorless liquid with a pleasant odor

HAZARD DATA

Hazard Rating	Firefighting	Reactivity
<p>2 - Health</p> <p>3 - Fire</p> <p>0 - Reactivity</p> <p>DOT#: UN 1184</p> <p>ERG Guide #: 131</p> <p>Hazard Class: 3 (Flammable)</p>	<p>FLAMMABLE LIQUID</p> <p>Use dry chemical, CO₂, water spray or alcohol-resistant foam as extinguishing agents.</p> <p>POISONOUS GASES ARE PRODUCED IN FIRE, including <i>Hydrogen Chloride, Vinyl Chloride, Acetylene</i> and <i>Phosgene</i>.</p> <p>CONTAINERS MAY EXPLODE IN FIRE.</p> <p>Use water spray to keep fire-exposed containers cool.</p> <p>Vapor is heavier than air and may travel a distance to cause a fire or explosion far from the source.</p> <p>Flow or agitation may generate electrostatic charges.</p> <p>1,2-Dichloroethane may form an ignitable vapor/air mixture in closed tanks or containers.</p>	<p>1,2-Dichloroethane may explode when mixed with <i>liquid AMMONIA; NITROGEN TETROXIDE</i>; and other OXIDIZING AGENTS (such as <i>PERCHLORATES, PEROXIDES, PERMANGANATES, CHLORATES, NITRATES, CHLORINE, BROMINE</i> and <i>FLUORINE</i>).</p> <p>1,2-Dichloroethane is not compatible with STRONG BASES (such as <i>SODIUM HYDROXIDE</i> and <i>POTASSIUM HYDROXIDE</i>); CHEMICALLY ACTIVE METALS (such as <i>POTASSIUM, SODIUM, MAGNESIUM</i> and <i>ZINC</i>); ALKALI AMIDES (such as <i>SODIUM AMIDE</i>).</p> <p>1,2-Dichloroethane attacks METALS in the presence of WATER.</p>

SPILL/LEAKS

Isolation Distance:

Spill: 50 meters (150 feet)

Fire: 800 meters (1/2 mile)

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

Use only non-sparking tools and equipment, especially when opening and closing containers of **1,2-Dichloroethane**.

Use foam to blanket release and to suppress vapors.

Keep **1,2-Dichloroethane** out of confined spaces, such as sewers, because of the possibility of an explosion.

DO NOT wash into sewer.

1,2-Dichloroethane is dangerous to aquatic life in high concentrations.

PHYSICAL PROPERTIES

Odor Threshold:	88 ppm
Flash Point:	56°F (13°C)
LEL:	6.2%
UEL:	15.9%
Auto Ignition Temp:	775°F (413°C)
Vapor Density:	3.4 (air = 1)
Vapor Pressure:	64 mm Hg at 68°F (20°C)
Specific Gravity:	1.25 (water = 1)
Water Solubility:	Slightly soluble
Boiling Point:	182°F (83°C)
Freezing Point:	-32°F (-36°C)
Ionization Potential:	11.05 eV
Molecular Weight:	98.96

EXPOSURE LIMITS

NIOSH: 1 ppm, 10-hr TWA; 2 ppm, Ceiling

ACGIH: 10 ppm

IDLH: 50 ppm

The Protective Action Criteria values are:

PAC-1 = 50 ppm PAC-2 = 200 ppm PAC-3 = 300 ppm

PROTECTIVE EQUIPMENT

Gloves:	SilverShield®/4H®, Viton and Barrier® (>8-hr breakthrough)
Coveralls:	Tychem® BR, Responder® and TK (>8-hr breakthrough)
Respirator:	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, dizziness, lightheadedness, confusion, tremor, loss of memory and even passing out

Chronic: Cancer (blood vessel, lung, breast) 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.