

Common Name: **BIS(2-CHLOROETHYL) ETHER**

Synonyms: DCEE; 2,2-Dichlorodiethyl Ether; Diethylene Glycol Dichloride

CAS No: 111-44-4

 Molecular Formula: C<sub>4</sub>H<sub>8</sub>Cl<sub>2</sub>O

RTK Substance No: 0232

Description: Clear, colorless liquid with a strong odor

## HAZARD DATA

Hazard Rating	Firefighting	Reactivity
<b>3 - Health</b> <b>2 - Fire</b> <b>1 - Reactivity</b> DOT#: UN 1916 ERG Guide #: 152 Hazard Class: 6.1 (Poison)	COMBUSTIBLE LIQUID Use dry chemical, CO <sub>2</sub> , water spray or foam as extinguishing agents. POISONOUS GASES ARE PRODUCED IN FIRE, including <i>Hydrogen Chloride</i> . Use water spray to keep fire-exposed containers cool. <b>Bis(2-Chloroethyl) Ether</b> may form an ignitable vapor/air mixture in closed tanks or containers at temperatures above 131°F (55°C).	Uninhibited <b>Bis(2-Chloroethyl) Ether</b> can form explosive <i>Peroxides</i> on exposure to AIR and LIGHT. <b>Bis(2-Chloroethyl) Ether</b> reacts violently with CHLOROSULFONIC ACID and OLEUM. <b>Bis(2-Chloroethyl) Ether</b> decomposes with exposure to WATER, MOISTURE or STEAM to form toxic and corrosive <i>Hydrogen Chloride gas</i> . <b>Bis(2-Chloroethyl) Ether</b> is not compatible with OXIDIZING AGENTS (such as PERCHLORATES, PEROXIDES, PERMANGANATES, CHLORATES, NITRATES, CHLORINE, BROMINE and FLUORINE); METALS; and METAL POWDERS.

## 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.

DO NOT wash into sewer.

**Bis(2-Chloroethyl) Ether** is a marine pollutant.

## PHYSICAL PROPERTIES

<b>Odor Threshold:</b>	0.049 ppm
<b>Flash Point:</b>	131°F (55°C)
<b>LEL:</b>	2.7%
<b>UEL:</b>	Not determined
<b>Auto Ignition Temp:</b>	696°F (367°C)
<b>Vapor Density:</b>	4.9 (air = 1)
<b>Vapor Pressure:</b>	0.7 mm Hg at 68°F (20°C)
<b>Specific Gravity:</b>	1.22 (water = 1)
<b>Water Solubility:</b>	Very slightly soluble/Reactive
<b>Boiling Point:</b>	352°F (178°C)
<b>Freezing Point:</b>	-62°F (-52°C)
<b>Molecular Weight:</b>	143

## EXPOSURE LIMITS

**OSHA:** 15 ppm, 8-hr TWA

**NIOSH:** 5 ppm, 10-hr TWA; 10 ppm, STEL

**ACGIH:** 5 ppm, 8-hr TWA; 10 ppm, STEL

**IDLH:** 100 ppm

The Protective Action Criteria values are:

PAC-1 = 10 ppm PAC-2 = 25.7 ppm PAC-3 = 100 ppm

## PROTECTIVE EQUIPMENT

<b>Gloves:</b>	SilverShield®/4H® and Barrier (>8-hr breakthrough for <i>Ethers, aliphatic</i> )
<b>Coveralls:</b>	Tychem® BR, Responder® and TK (>8-hr breakthrough)
<b>Respirator:</b>	SCBA

## HEALTH EFFECTS

<b>Eyes:</b>	Irritation and burns
<b>Skin:</b>	Irritation and burns
<b>Inhalation:</b>	Nose, throat and lung irritation, with coughing, and severe shortness of breath (pulmonary edema)
<b>Chronic:</b>	Cancer (liver) in animals

## FIRST AID AND DECONTAMINATION

<b>Remove</b>	the person from exposure.
<b>Flush</b>	eyes with large amounts of water for at least 15 minutes. Remove contact lenses if worn. Seek medical attention.
<b>Quickly</b>	remove contaminated clothing and wash contaminated skin with large amounts of soap and water.
<b>Begin</b>	artificial respiration if breathing has stopped and CPR if necessary.
<b>Transfer</b>	promptly to a medical facility.
<b>Medical</b>	observation is recommended as symptoms may be delayed.