

Common Name: **ETHYLENE DIBROMIDE**

Synonyms: EDB; Ethylene Bromide

CAS No: 106-93-4

 Molecular Formula: C₂H₄Br₂

RTK Substance No: 0877

Description: Colorless, thick liquid with a slightly sweet, pleasant odor

HAZARD DATA

Hazard Rating	Firefighting	Reactivity
3 - Health 0 - Fire 0 - Reactivity DOT#: UN 1605 ERG Guide #: 154 Hazard Class: 6.1 (Poison)	Extinguish fire using an agent suitable for type of surrounding fire. Ethylene Dibromide itself does not burn. POISONOUS GASES ARE PRODUCED IN FIRE, including <i>Hydrogen Bromide</i> . Use water spray to keep fire-exposed containers cool.	Ethylene Dibromide may react violently with <i>powdered</i> ALUMINUM, MAGNESIUM and ZINC. Ethylene Dibromide may react with SODIUM; POTASSIUM; CALCIUM; LIQUID AMMONIA; OXIDIZING AGENTS (such as PERCHLORATES, PEROXIDES, PERMANGANATES, CHLORATES, NITRATES, CHLORINE, BROMINE and FLUORINE); and STRONG BASES (such as SODIUM HYDROXIDE and POTASSIUM HYDROXIDE) to cause fires and explosions. Ethylene Dibromide decomposes on HOT SURFACES to form toxic and corrosive <i>Hydrogen Bromide</i> and <i>Bromine</i> gases.

SPILL/LEAKS

Isolation Distance:

Spill: 30 meters (100 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 foam to blanket release and suppress vapors.

Ethylene Dibromide may be hazardous to the environment.

PHYSICAL PROPERTIES

Odor Threshold:	Slightly sweet
Flash Point:	Noncombustible
Vapor Density:	6.5 (air = 1)
Vapor Pressure:	12 mm Hg at 68°F (20°C)
Specific Gravity:	2.2 (water = 1)
Water Solubility:	Very slightly soluble
Boiling Point:	268° to 270°F (131° to 132°C)
Melting Point:	50°F (10°C)
Ionization Potential:	9.45 eV
Molecular Weight:	187.8

EXPOSURE LIMITS

OSHA: 20 ppm, 8-hr TWA; 30 ppm, Ceiling; 50 ppm Peak (5 min.)

NIOSH: 0.045, 10-hr TWA; 0.13 ppm, Ceiling

IDLH: 100 ppm

The Protective Action Criteria values are:

PAC-1 = 17 ppm PAC-2 = 24 ppm PAC-3 = 46 ppm

PROTECTIVE EQUIPMENT

Gloves:	Polyvinyl Alcohol, Silver Shield®/4H®, Viton and Barrier® (>8-hr breakthrough)
Coveralls:	Tychem® BR, TK and CSM (>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, drowsiness, unconsciousness and coma
Chronic:	Cancer (nasal cavity, circulatory system, mammary gland, and other sites) in animals

FIRST AID AND DECONTAMINATION

Remove	the person from exposure.
Flush	eyes with large amounts of water for at least 30 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.
Medical	observation is recommended as symptoms may be delayed.