Right to Know Hazardous Substance Fact Sheet

Emergency Responders Quick Reference

Common Name: **EPICHLOROHYDRIN**

Synonyms: Chloromethyl Oxirane; 3-Chloropropylene Oxide; 1-Chloro-2,3-Epoxypropane
CAS No: 106-89-8
Molecular Formula: C_3H_5ClO
RTK Substance No: 0828

Description: Clear, colorless liquid with an irritating odor

HAZARD DATA

Hazard Rating	Firefighting	Reactivity
4 - Health **3 - Fire** **2 - Reactivity** **DOT#:** UN 2023 **ERG Guide #:** 131P **Hazard Class:** 6.1 (Poison)	**Epichlorohydrin** is a FLAMMABLE and REACTIVE LIQUID that can polymerize violently when exposed to HEAT. 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. Vapor is heavier than air and may travel a distance to cause a fire or explosion far from the source or flash back. **Epichlorohydrin** may form an ignitable vapor/air mixture in closed tanks or containers.	**Epichlorohydrin** can react with HEAT; STRONG ACIDS (such as HYDROCHLORIC, SULFURIC and NITRIC) and STRONG BASES (such as SODIUM HYDROXIDE and POTASSIUM HYDROXIDE) to cause violent and uncontrollable polymerization. **Epichlorohydrin** may react violently or explosively with OXIDIZING AGENTS (such as PERCHLORATES, PEROXIDES, PERMANGANATES, CHLORATES, NITRATES, CHLORINE, BROMINE and FLUORINE); ALCOHOLS; AMINES (especially ANILINE and ETHYLENE DIAMINE); ALUMINUM; ZINC; METAL SALTS (such as IRON and ALUMINUM CHLORIDE); PHENOLS; POTASSIUM TERT-BUTOXIDE; and WATER. **Epichlorohydrin** will react with TRICHLOROETHYLENE to form explosive *Dichloroacetylene*.

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.

Metal containers involving the transfer of **Epichlorohydrin** should be grounded and bonded.

Keep **Epichlorohydrin** out of confined spaces, such as sewers, because of the possibility of an explosion.

Epichlorohydrin is harmful to aquatic life.

PHYSICAL PROPERTIES

Odor Threshold:	0.08 to 12 ppm
Flash Point:	88ºF (31ºC)
LEL:	3.8%
UEL:	21%
Auto Ignition Temp:	772ºF (411ºC)
Vapor Density:	3.29 (air = 1)
Vapor Pressure:	13 mm Hg at 68ºF (20ºC)
Specific Gravity:	1.17 (water = 1)
Water Solubility:	Slightly soluble
Boiling Point:	242ºF (117ºC)
Freezing Point:	-54ºF (-47.8ºC)
Ionization Potential:	10.6 eV
Molecular Weight:	92.53

EXPOSURE LIMITS

OSHA: 5 ppm, 8-hr TWA
NIOSH: Lowest feasible concentration
ACGIH: 0.5 ppm, 8-hr TWA
IDLH: 75 ppm

The Protective Action Criteria values are:
PAC-1 = 1.7 ppm PAC-2 = 24 ppm PAC-3 = 72 ppm

PROTECTIVE EQUIPMENT

Gloves: Butyl, Viton and Barrier® (>8-hr breakthrough)

Coveralls: Tychem® BR, CSM and TK; Trellchem® HPS and VPS (>8-hr breakthrough)

Respirator: >0.5 ppm - SCBA

HEALTH EFFECTS

Eyes: Irritation and burns

Skin: Irritation and burns (skin absorbable)

Inhalation: Nose, throat and lung irritation with coughing, and severe shortness of breath (pulmonary edema)

Chronic: Cancer (nasal cavity and skin) 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 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.