

Principal Investigator: \_\_\_\_\_

Date Approved: \_\_\_\_\_

**This document covers basic chemical safety information for epichlorohydrin and supplements the laboratory Chemical Hygiene Plan as appropriate. The use of epichlorohydrin is subject to pre-approval by the Principal Investigator (PI) and/or designated Laboratory Responsible Safety Person. DO NOT USE EPICHLOROHYDRIN UNTIL YOU HAVE OBTAINED THE NECESSARY PRE-APPROVAL.**

## Epichlorohydrin

Epichlorohydrin (C<sub>3</sub>H<sub>5</sub>ClO) is a highly reactive organic compound with a garlic-like odor. It is used in the manufacture of epoxy resin, and as a versatile reagent in organic synthesis. It is a colorless liquid that is flammable, corrosive, and carcinogenic. This substance is rapidly absorbed through skin, and acts as an alkylating agent of DNA to promote cancer.



## Personal Protective Equipment

**Lab Coat**

Flame-resistant lab coat and a chemical-resistant lab apron over top when handling large quantities.

**Gloves**

Polyvinyl alcohol or butyl gloves - **do not wear nitrile or neoprene gloves.**

**Eye Protection**

ANSI Z87.1-compliant safety goggles, or face shield if a splash hazard is present.

## Labeling & Storage

Store epichlorohydrin under inert gas, in a dry, well-ventilated place, and in a chemically-resistant secondary container within an approved flammable storage cabinet. Avoid heat, flames, or sparks. Follow all guidelines for the labeling and segregation of carcinogens as outlined in the Chemical Hygiene Plan. Incompatibilities: acids, bases, ammonia, amines, sodium/sodium oxides, zinc, magnesium, aluminum and its alloys, and halide salts.

## Engineering Controls, Equipment & Materials

**Fume Hood**

Work with this chemical in a certified, ducted fume hood with electrically grounded lines and equipment. If your protocol does not permit the handling of such materials in a fume hood, contact the Department of Environmental Health, Safety and Sustainability (EHSS) to determine whether additional respiratory protection is warranted.

## Housekeeping

**Spills**

Notify others in the area of the spill, including your PI/Responsible Safety Person. If it is a small spill that you can easily handle, use the contents of your lab spill kit to clean it up. If it is a large spill, then evacuate the area where the spill occurred. Call Vanderbilt

University Public Safety (VUPS) at 615-421-1911 or use the VandySafe app on your smart phone. Report any exposure through Risk and Insurance Management's Origami portal and mark that it occurred in research when prompted. Both VUPS and the Origami system will notify EHSS of the incident. Remain on site at a safe distance to provide detailed information to first responders.

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**Decontamination**

Clean any work surfaces which may have come in contact with epichlorohydrin using soap and water.

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**Waste**

Refer to the laboratory *Chemical Hygiene Plan* (Section 6.7) for information on proper chemical waste disposal procedures.

## First Aid & Emergencies

**Skin or Eye Contact**

Remove contaminated clothing and accessories; flush affected area with water. If symptoms persist, get medical attention.

**Inhalation**

Move person into fresh air. If symptoms persist, get medical attention.

**Ingestion**

Rinse mouth with water. If symptoms persist, get medical attention.

