

HAZARD ALERT

CPWR

THE CENTER FOR CONSTRUCTION
RESEARCH AND TRAINING

PVC AND CPVC CEMENT PRODUCTS

with Tetrahydrofuran (THF)



What is the risk?

Tetrahydrofuran (THF), is a commonly used solvent in these products, with concentrations ranging from 10% up to 70%. Although some commercially available products do not contain THF, most contain at least some. Chronic exposure to THF is believed to cause cancer, based on kidney and liver cancer found in animals exposed to THF in experiments.*

After the primer and cement are applied to the plastic pipe surface, THF evaporates quickly during the drying process and enters the surrounding air. Workers using these products can be exposed to THF by breathing it in or skin contact.

Do not use cloth gloves when handling PVC cement as they absorb the solvent and keep it against your skin. Instead, wear chemical resistant gloves (such as nitrile) and wash any PVC cement off your skin immediately with soap and water.

*International Agency for Research on Cancer (IARC): publications.iarc.who.int/575

What are PVC cement products?

PVC (polyvinyl chloride) primer and PVC cement products, as well as CPVC (chlorinated polyvinyl chloride) primer and cement products, are powerful adhesives used to chemically weld PVC/CPVC pipes and fittings together, fix leaks, and fill small gaps. Sometimes referred to as solvent-based products, the primer and cement are applied to the surface of the plastic pipes and fittings using a brush, dauber, or roller, then cured to create a permanent joint or bond. These products are used by professional plumbers, HVAC technicians, and electricians, as well as Do-it-Yourselfers.

Prevent Exposure Upfront: Ask for Safer Products

Several commercially available PVC and CPVC products do not contain THF but typically perform comparably to those with THF and meet the applicable standards and certification requirements. Examples include:

- ▶ Christy's Purple Primer
- ▶ EZ Weld Enviro PVC Cement and Primer
- ▶ Mainline PVC Cement and Primer
- ▶ Rectorseal Primer
- ▶ Weld-on 700, 705, 780, 781 PVC Cement

To Be Safe Using PVC And CPVC Cement Products:

1 Check the Label

Review the ingredients listed on the product label and the product's Safety Data Sheet for the presence of "tetrahydrofuran," "THF," or "oxolane." Check for warning labels or graphics.



Check for the **OSHA Hazard Communication Standard (HCS)** health hazard pictogram on the container. It identifies substances that may cause cancer or other chronic health conditions.



Look for a **California Proposition 65** warning label on the product container, which indicates that THF is likely an ingredient.

"WARNING: This product can expose you to chemicals including tetrahydrofuran, which is known to the State of California to cause cancer."

2 Wear Personal Protective Equipment

THF primarily enters the body through inhalation or skin exposure. Your employer should provide the appropriate respiratory protection, eye protection, gloves, and other necessary PPE. Check the product label and Section 8 of the product's Safety Data Sheet to identify the proper protective equipment for the intended application.

3 Use Safe Handling & Storage Methods

Prior to working with PVC/CPVC cement products containing THF, you should receive training on their proper handling and storage. These products must be stored to **avoid contact with oxidizing agents**—such as halogens (e.g. chlorine), peroxides (e.g. hydrogen peroxide), strong acids (e.g. nitric acid), and hypochlorites (e.g. bleach)—since violent reactions can occur. Oxidizing agents can be found in products such as cleaners, disinfectants, first aid antiseptics, lab reagents, and pesticides.

Store products in tightly closed containers in a cool, well-ventilated area. Protect storage containers from physical damage and avoid sources of ignition, such as smoking and open flames.

Learn more about tetrahydrofuran:

- ▶ National Institute of Health: bit.ly/4vwBIAg
- ▶ New Jersey Department of Health Hazardous Substance Fact Sheet: bit.ly/4g1ZRKe
- ▶ Occupational Safety and Health Administration (OSHA): bit.ly/43VtLZh

**If you think you
are in danger:**

Contact your supervisor.
Contact your union.

Call OSHA
1-800-321-OSHA

**Find out more about
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