

The story of the recent rail accident and spill of vinyl chloride in East Palestine, Ohio, begins at petrochemical plants located all over the Gulf Coast. The chemical spill released over one million pounds of vinyl chloride, which was on its way from Madison, Illinois, to Conway, Pennsylvania, one of the largest train yards in the United States.

Unfortunately, Louisiana has also experienced a train derailment that caused vinyl chloride to enter the environment. In 1982, a large train carrying many explosive, hazardous, and carcinogenic materials derailed in the small town of Livingston. Over the next few days, uncontrolled explosions and burns released these chemicals into the air and soil, which resulted in an emergency two week evacuation of over 3,000 people. Six derailed cars of vinyl chloride were determined too dangerous to move, and were deliberately set on fire.

After the accident in East Palestine, many cleanup workers and returning residents reported migraines, nausea, and skin rashes. These types of immediate health problems can happen after major accidents, but also from everyday industrial operations. Workers or members of fence-line communities can be exposed to plumes of toxic chemicals from industrial start up/shut down events, flaring, non-emergency problems, or even routine operations.

Even a brief chemical exposure can have both short-term and long-term health effects. For example, vinyl chloride can cause immediate dizziness and unconsciousness, but it could also lead to cancer later in life. Most cancers that result from toxic exposures take years or decades to develop. This time lag can make it difficult to connect the exposure with the cancer. Case in point: cigarette smoking was popular for over a century before the U.S. Surgeon General determined, in the mid 1960s, that cigarettes cause cancer. The danger from major industrial accidents, like the train derailment in East Palestine, is usually obvious. But the risk from exposure to lower levels of toxic chemicals over many years is less obvious, though potentially just as deadly. This is why a doctor asks how *long* a person has smoked, and not just how *much* they smoke. Just like cigarettes, there is no safe level of exposure to vinyl chloride or other cancer-causing chemicals. And while we can control our exposure to cigarette smoke, it's harder to prevent being exposed to cancer-causing industrial pollution. Long-term exposure to low levels of vinyl chloride can cause liver cancer and other health problems. For many pollutants, the risk is greater for children than adults. Animal studies suggest that being exposed to vinyl chloride as a child results in a higher risk of liver cancer than having the same level of exposure as an adult.¹

The Formosa Plastics plant in Point Comfort, TX is the largest industrial emitter of vinyl chloride in the U.S., at about 80,000 lbs per year, according to EPA data. At that rate, the Formosa Plastics' plant emits about the same amount of vinyl chloride over a decade as that released from the East Palestine train derailment. Industrial plants in Iberville Parish release more than 30,000 lbs of vinyl chloride into the air every year. Other parishes with large (>15,000 lbs per year) emissions of vinyl chloride include Ascension, Calcasieu, East Baton Rouge, and West Baton Rouge. These emissions are part of routine operations, and nearby residents face the additional risk of accidents and disasters like the vinyl chloride spill that Formosa Plastics reported at its Point Comfort, TX plant just last month. Formosa Plastics' bad track record with vinyl chloride goes back decades. In 2004, five workers were killed and two were severely injured in a preventable vinyl chloride explosion at a now demolished Formosa Plastics plant in

¹ <https://www.atsdr.cdc.gov/ToxProfiles/tp20.pdf>

Illioopolis, IL. The fenceline community and town at large were evacuated for two days. And at the Formosa Plastics' Baton Rouge facility, a spill and fire at a rail loading station in 1983 caused two serious worker injuries, a vinyl chloride fire that burned for five days, and the evacuation of a nearby town. While measures can be taken to improve workplace safety, the risks to communities often go unnoticed. These silent, invisible risks are why communities deserve to be educated and informed about air quality in Louisiana.

HOW TO REDUCE THE NEED FOR VINYL CHLORIDE

Vinyl chloride is used primarily in making PVC plastic products. While PVC pipes are common, there are alternatives including clay and metal.

When shopping for shoes, belts, and bags, steer clear of PVC. Many vegan “leather” products are made from petrochemicals, but there are now stylish, strong, and sustainable “leathers” made from pineapple leaves, mushroom fiber, and cork.

If you are interested in learning how you can help people who continue to be affected by the East Palestine vinyl chloride disaster, there is more information here:

<https://www.plasticpollutioncoalition.org/blog/2023/3/7/trains-carrying-toxic-plastics-and-chemicals-derail-in-ohio-and-michigan>