



## NORFOLK SOUTHERN TRAIN DERAILMENT

East Palestine, Ohio

Updated February 8, 2023 7:00PM

Frequently Asked Questions

### **BACKGROUND**

On Friday, February 3, 2023, at approximately 9:30 p.m., a Norfolk Southern train had 53 cars derail in East Palestine, Ohio. The site of the derailment is less than one mile from the Pennsylvania (PA) border. Five of the train cars contained the hazardous material vinyl chloride.

A shelter-in-place was ordered for residents within 1-2 miles of the derailment on February 5. Due to continued concern and potential for container failure and explosion, Norfolk Southern scheduled a controlled vent and burn of the vinyl chloride from all five railcars on the afternoon of February 6. The plume from the vent has since dissipated, and all previously damaged train cars have been removed from the tracks. The Governors of Pennsylvania and Ohio have announced residents may return to their homes and no longer need to shelter in place.

### **WHAT IS BEING DONE NOW?**

Environmental, health and safety officials from Pennsylvania, Ohio, and multiple federal agencies are working together to continually monitor air quality in the region. Monitoring has been in place since the incident began, including the timing of the controlled vent and burn, the fire afterwards, and overnight. Thus far, no concerning readings have been detected.

The U.S. Environmental Protection Agency is providing data based on the readings received from a number of testing locations, pre- and post-controlled burn. That data is available here:

[https://response.epa.gov/site/site\\_profile.aspx?site\\_id=15933](https://response.epa.gov/site/site_profile.aspx?site_id=15933)

### **QUESTIONS ABOUT RE-ENTRY AND RETURNING HOME**

#### **HOW DO I MAKE A PLAN FOR RE-ENTRY AFTER EVACUATION?**

At 3:00PM on Wednesday, February 8, Ohio and Pennsylvania lifted their evacuation and shelter in place orders and permitted affected residents to return to their homes. In Pennsylvania, Beaver County Emergency Management led the effort to notify residents of the 22 impacted homes.

For questions about re-entry planning, health concerns, and home monitoring, please reach out to the toxicologists contracted by Norfolk Southern:

#### **Toxicologists Contracted by Norfolk Southern, CTEH**

234-542-6474 | 10a-10p

(Questions specific about smell, health, animals, houses, etc.)



## **Toxicologists Contracted by Norfolk Southern for Testing & Sampling**

Phone: 330-849-3919

(In home testing and monitoring within the 1-mile evacuation zone only)

### **RETURNING HOME RECOMMENDATIONS**

Returning home after a disaster can be challenging. It is important that you take steps to protect your physical, mental, and emotional health as you return home.

Ways to do this include:

- Rest when you need to;
- Decide which cleanup tasks are most important and focus on those first. That way, you're less likely to be overwhelmed;
- Try to work with other people, so you aren't alone;
- Get support from family members, friends, counselors, or therapists.

### **SHOULD I AIR OUT MY HOUSE UPON RETURNING HOME?**

If you opt to have home monitoring conducted as part of the re-entry plan, the monitoring will provide helpful information as to whether you need to air out your house. If chemicals are detected at or above the screening level, it will be required that your home is aired out professionally.

Regardless of whether you have your home monitored or not, you should open windows and doors and use fans pointed outdoors, if possible, to air out your house.

### **IS VACUUMING GOOD OR BAD?**

Running a vacuum may cause chemicals that have settled on floors and surfaces to become airborne, which could cause inhalation concerns. Out of an abundance of caution, if you decide to vacuum, you should vacuum while following the above steps of airing out your home, and vacuum small amounts at a time and take frequent breaks by walking outdoors.

### **HOW SHOULD I CLEAN THE SURFACES INSIDE AND OUTSIDE MY HOME?**

It is recommended that you wipe down any surfaces that could have been exposed to chemicals, which would include anything used for the preparation or eating of food, any children's or infant's toys, anything touched frequently, such as light switches, remotes, etc. These surfaces can be wiped down with a diluted bleach cleaner using one cup of bleach for five gallons of water.



### **IS WATER OUTSIDE SAFE TO DRINK FOR ANIMALS?**

While it is unlikely that the water would be contaminated, it is advised to dump the water and provide fresh water to pets or animals, indoors or outdoors.

### **SHOULD I RUN MY WATER FOR A FEW MINUTES TO ENSURE IT IS SAFE TO DRINK?**

While it is unlikely that the water would be contaminated, typically when people return home after a disaster it is recommended to run water for a few minutes to clean out all water supply. This would include running water from any faucets, water that comes from a refrigerator, etc.

Free testing of water from private wells in the impacted area will also be offered by an independent contractor hired by Norfolk Southern Railroad, with testing offered for every private well in Pennsylvania. In the interim, those with private water wells are encouraged to use bottled water, which will be supplied by Norfolk Southern. Those who remain uncomfortable returning home at this time can also request assistance with hotel expenses from the railroad.

That contractor will also provide free air quality readings in homes at the owner's request. Those samples and results will be provided at no charge to residents.

### **ARE THERE CONCERNS FOR LIVESTOCK OR WILDLIFE?**

Specific inhalation exposure data is limited for these chemicals (vinyl chloride, hydrogen chloride, and phosgene); however, it is expected that the risk to animals would be similar to the risk to humans. Since hydrogen chloride rapidly dissociates in water or moisture, it is unlikely that grazing on grass in the affected area will result in health effects to livestock or wildlife. Phosgene will not stick to soil. Instead, phosgene may evaporate into the air or pass through the soil surface and break down in water. Hydrogen chloride and phosgene do not accumulate in the food chain; therefore, you cannot be sickened by eating an animal that may have come into contact with these gases.

## **QUESTIONS ABOUT CHEMICALS/HEALTH IMPACTS**

### **WHAT ARE THE CHEMICALS INVOLVED?**

The train cars involved in the controlled vent and burn were carrying vinyl chloride. **Vinyl chloride** is a flammable gas and if involved in a fire, could break down into hydrogen chloride, phosgene, carbon dioxide, and carbon monoxide vapors when burned. Continuous and roaming air monitoring for these chemicals, as well as particulate matter (PM<sub>2.5</sub> and PM<sub>10</sub>,) and volatile organic chemicals (VOCs), is being conducted throughout the derailment incident. The monitors are positioned near the incident and also



several miles away to monitor chemicals of concern. Many of the air monitors used are mobile and were repositioned as necessary to ensure proper placement in reference to current and forecasted meteorological data.

### **SHOULD I BE CONCERNED ABOUT MY HEALTH?**

Currently, as of Wednesday, February 8, the U.S. EPA has said only minimal detections have been found, and so far, nothing has been found in the immediate area to cause concern.

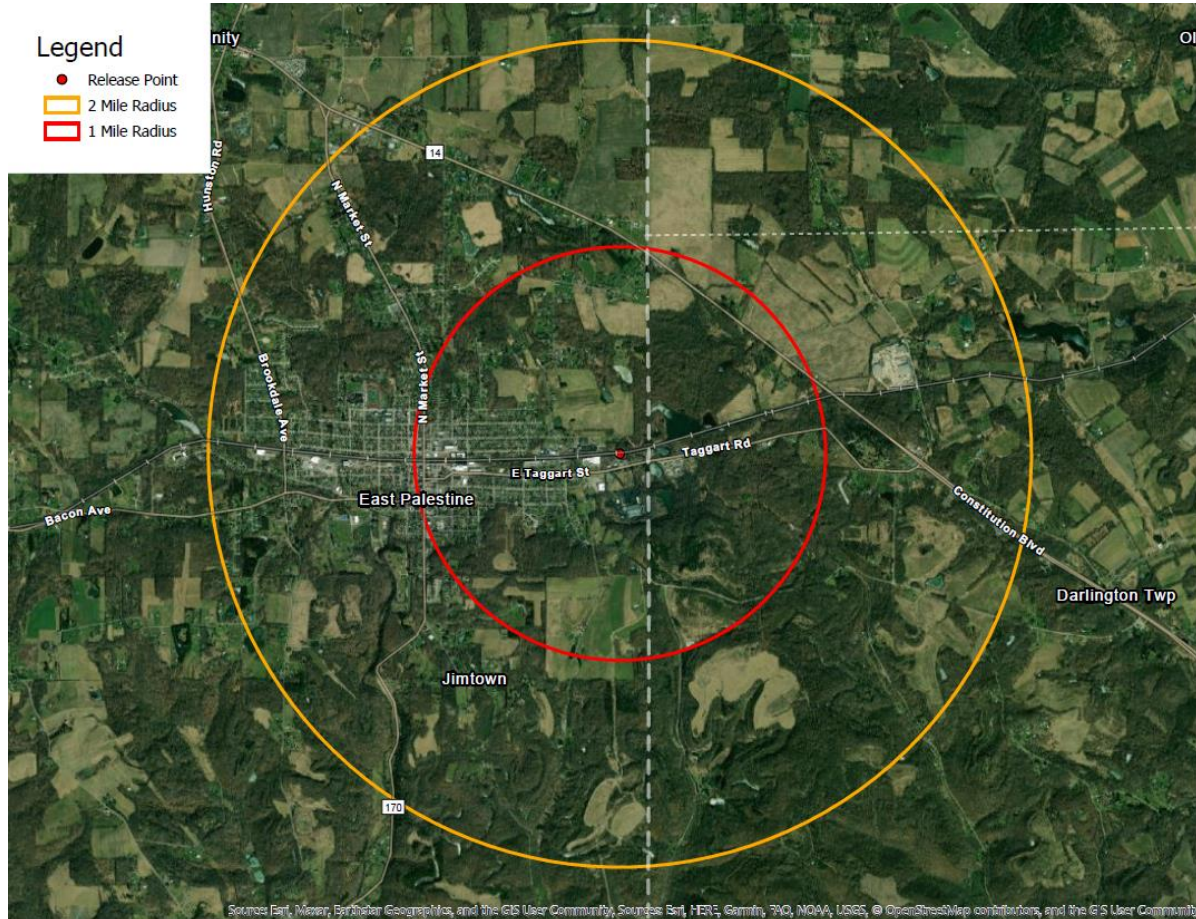
### **WHAT IF I HAVE HEALTH CONCERNS ABOUT EXPOSURE TO THESE CHEMICALS?**

In the event of an emergency, please call 911. If you have health concerns, please contact your primary care physician. If you have specific questions about these potential exposures, please call the EPA's Response Hotline at 215-814-2400 (leave a message and the team will return your call), a toxicologist contracted by Norfolk Southern at 234-542-6474, or call the Pittsburgh Poison Control Center incident hotline at 412-681-6669.

Currently, the U.S. EPA has said only minimal detections have been found, and so far, nothing concerning has been found in the immediate area. Due to the short duration exposure from this incident, health effects from long-term exposure are not expected to occur.

## QUESTIONS ABOUT THE AREA/WEATHER

### WHAT AREA WAS IMMEDIATELY IMPACTED?



Out of an abundance of caution, a **1-mile evacuation radius (red circle in the above graphic)** surrounding the controlled vent and burn of five railcars in East Palestine, OH and a **shelter-in-place for those within 2-miles (orange circle)**, was determined necessary from February 6<sup>th</sup> to 3:00PM on February 8<sup>th</sup>, based on air modeling with site-specific information. The evacuation area only contained a small number of Pennsylvania residences. The evacuation and shelter in place conditions have since been lifted.

Air modeling included estimates of vinyl chloride in the railcars; meteorological data including temperature, wind speed, and direction; precipitation; and assumptions regarding amount of potential combustion products (e.g., hydrogen chloride and phosgene) for the controlled vent and burn. This modeling produced a map to indicate locations at risk for immediate, or acute effects that relies on US



EPA acute exposure guideline levels (AEGLs) for airborne chemicals. These levels are determined safe for public health and include the protection of sensitive populations, such as the elderly and children, as well as individuals with asthma or other illnesses.

The further away from the center of the controlled vent and burn, the lower an individual's exposure risk. Additionally, air monitors positioned in PA and OH surrounding the site are collecting information on hydrogen chloride, phosgene, carbon monoxide, PM<sub>2.5</sub>, PM<sub>10</sub>, and VOCs.

### **HOW DO WEATHER CONDITIONS IMPACT POTENTIAL FOR EXPOSURE?**

Rain or snow in the forecast will improve conditions. Hydrogen chloride that is released into the atmosphere will be removed by rain and snow. Hydrogen chloride rapidly breaks down in water and lowers the pH of water, making it more acidic. Hydrogen chloride will evaporate from dry soil surfaces or will break down in moist soil. Phosgene reacts and degrades faster when interacting with water or moisture. Phosgene will react with water and degrade into hydrochloric acid and carbon dioxide. The degradation products in water are not expected to be a public health concern.

### **ADDITIONAL RESOURCES**

[ATSDR ToxFAQs Vinyl chloride](#)

[ATSDR ToxFAQs Hydrogen chloride](#)

[ATSDR ToxFAQs Phosgene](#)

[Facts About Phosgene](#)

[PA DOH Carbon monoxide Factsheet](#)

[US EPA Acute Exposure Guideline Levels \(AEGLs\) for airborne chemicals](#)

### **RESOURCES PROVIDED BY NORFOLK SOUTHERN**

**Norfolk Southern Assistance Center**

Phone: 1-800-230-7049

Email: [media.relations@nscorp.com](mailto:media.relations@nscorp.com)

**Submit a Claim to Norfolk Southern:** [Norfolk Southern Newsroom - Claims Forms \(mediaroom.com/claim-forms\)](#)

**Norfolk Southern Website:** <https://nscorp.mediaroom.com/eastpalenstine>



**Family Assistance Center by Norfolk Southern**

Abundant Life Church  
46469 State Route 46, New Waterford, OH  
8am – 8pm

**Toxicologists Contracted by Norfolk Southern, CTEH**

234-542-6474 | 10a-10p  
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