

East Palestine Train Derailment Health Information

The U.S. Environmental Protection Agency (EPA) issued a [letter](#) on February 10, 2023, to the Norfolk Southern Railway Company indicating their findings and potential areas of liability. A [full list](#) of what was contained in the various train cars is also available to the public. The hazardous materials of note in the letter included:

- Vinyl chloride
- Butyl acrylate
- Ethylhexyl acrylate
- Ethylene glycol monobutyl ether
- Isobutylene

Some additional information regarding these hazardous substances and potential health impacts can be seen in the chart below.

Hazardous Substance	What is it?	What is it used for?	Health Impacts
Vinyl chloride (Known to cause cancer)	Colorless gas or liquid that has a mild but sweet odor	Manufactured substance (not naturally occurring) used to make things like polyvinyl chloride (PVC) for plastic products, pipes, packaging, etc.	Inhalation: dizziness, anesthesia, lung irritation; long-term exposure can cause changes to the liver, nerve damage, alterations in immunity, and can lead to angiosarcoma (cancer) of the liver Absorption: If spilled on skin, it can cause numbness, redness, blisters, and frostbite
Butyl acrylate	Clear and colorless liquid that has a strong fruity odor	Organic compound used as a raw material for adhesives, coatings, plastics, etc.	Inhalation: irritated eyes, upper respiratory symptoms (pulmonary edema or fluid buildup in the lungs), difficulty breathing Absorption: irritated skin, dermatitis, sensitive skin
Ethylhexyl acrylate	Colorless liquid that has a pleasant odor	Organic compound used in the making of paints and plastics	Inhalation: drowsiness, convulsions, severe respiratory irritation

			Absorption: can irritate eyes and skin with prolonged exposure
Ethylene glycol monobutyl ether <i>There has been evidence from animal studies to suggest the risk of cancer, but this cannot be determined at this time for humans.</i>	Colorless liquid with mild and pleasant odor	Organic compound that is the primary alcohol in ethanol, it is used for paints and inks as well as dry cleaning solutions	Inhalation: headaches, nausea, vomiting, dizziness Absorption: irritation to the eyes and nose <i>Ethylene glycol ethers (which are in this compound) have limited proof of spontaneous abortions and decreased sperm count in humans.</i>
Isobutylene	Colorless gas that smells faintly like petroleum	Component of natural gas and crude oil that is used in the production of isooctane which is a high-octane aviation gasoline	Inhalation: dizziness, drowsiness, and unconsciousness Absorption: contact with eyes or skins can cause irritation and can cause frostbite

* All information provided by [PubChem](#), National Library of Medicine

Protecting Your Health

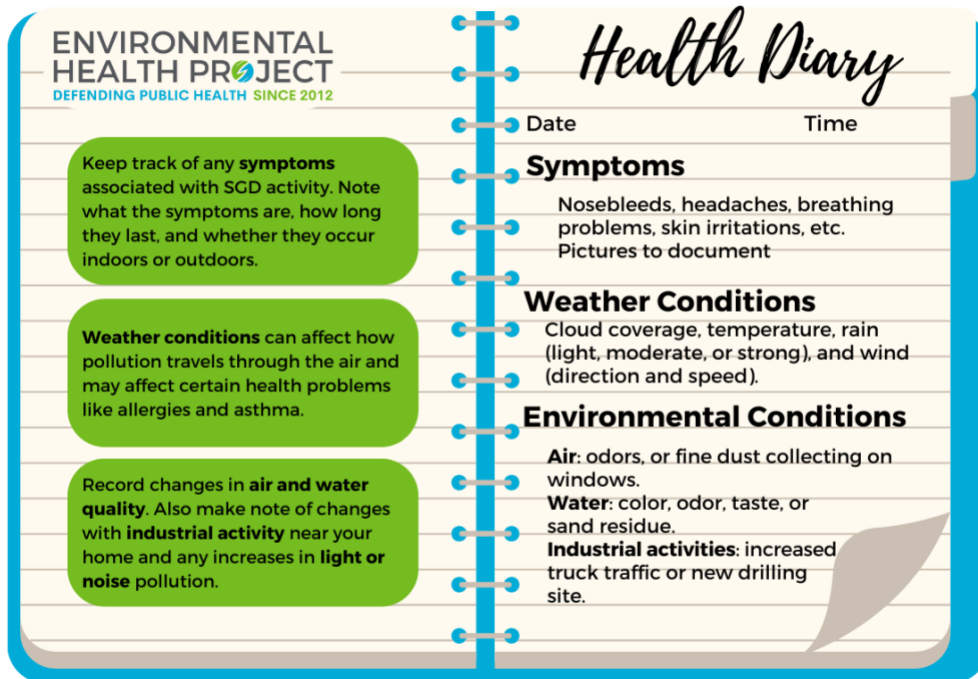
Industrial activities can pollute the air, water, and soil around nearby homes. If you are worried about your health, you don't need to wait for test results or illness to confirm your sense that you may be faced with health risks. You can act now by keeping a health diary, talking with a trusted healthcare provider, monitoring air and water/soil quality, and taking special precautions as an industry worker.

Health

A health diary is a way for you to keep track of patterns in your health and the factors that might impact it. Keeping a health diary may help you and your health professional determine if there are connections between environmental conditions and your health. Taking your health diary to any medical appointments can help facilitate the conversation.

There are many options available to record your health information. You can write it in a notebook or journal, use an [online health diary](#), or use a smartphone app such as [Symple](#) for Apple products and [Medicalog](#) for Android.

It's best to use your health diary every day, but you also want to use it any time you notice a change in your health or in the surrounding environmental conditions. A health diary is a great way to start a conversation with a trusted health professional. For tips on talking to a health provider check out this [resource](#). For more information on what to include in your health diary, see the graphic below.



© Environmental Health Project 2022

Air

In addition to monitoring air quality near your home, there are many other ways to protect yourself from the potentially harmful effects of air pollution:

- Use an air purifier: There are many types of air filters for home use. EHP recommends the [Austin Air Healthmate](#) because it removes chemicals, small particles, odors, and dust from inside air. Although an air filtration system like the Austin Air HealthMate is optimal, there are other low-cost options available. Reducing Outdoor Contaminants in Indoor Spaces (ROCIS) offers a DIY, low-cost fan/filter to remove particles in the air. To learn more about assembling your own fan/filter, [click here](#).
- [Remove avoidable indoor air pollutants](#):
 - Avoid bringing contaminated dirt and dust into your home by taking off your shoes and wiping off pets' paws and fur before going inside. Remove contaminated clothing before entering the home to reduce family exposures.
 - Keep windows and doors closed and use an air conditioner, if you have one, to help keep outdoor air outside.
 - If you use well or spring water, vent indoor air to help reduce exposures to volatile organic compounds (VOCs) that could be in your water.
 - Use a vacuum with a HEPA filter inside your home instead of sweeping. Sweeping could stir any particles that may be on the ground and spread them around while vacuuming is more likely to remove them.

- Pay attention to the weather: Use resources like [AirNow](#) to better know whether upcoming days will have good, moderate, or poor air quality. On days where bad air quality is likely, close windows and go elsewhere if possible. If you are home when the air is unhealthy, limit your outdoor activities. During very unhealthy conditions, stay indoors.

Water/Soil

Different levels of water contamination call for different plans of action. At minimum, if testing shows that your well is contaminated, do not drink the water. Notify your state department of environmental protection and department of health. Specific reporting information can be found in the [Where to Turn Directory](#).

If more serious contamination is found, you should also limit bathing and cooking with this water and ventilate rooms where the water is used (for example, laundry, kitchen, and bathrooms). If your water becomes contaminated, you should consider [long-term water treatment options](#).

Some of the steps you can take to address water contamination include:

- Get your water tested. Well owners who want to get their own sampling done can go to a variety of labs around Ohio and Pennsylvania that are certified to test for volatile organic compounds, including the vinyl chloride:
 - Alloway Marion Laboratory, Marion; 740-389-5991 or 800-873-2835
 - Aqua Pennsylvania Inc., Bryn Mawr, Pennsylvania
 - Cardinal Environmental Lab, Youngstown; 330-797-8844 or 800-523-0347
 - Coshocton Environmental Testing, Coshocton; 740-622-3328 or 800-870-6570
 - CWM Environmental Inc., Cleveland; 216-663-0808
 - Dayton Central Water Quality Laboratory, Dayton; 937-333-6093
 - Jones & Henry Laboratories, Northwood; 419-666-0411
 - MASI Laboratory, Plain City; 614-873-4654
 - Pace Analytical Services, Englewood; 800-723-5227
 - Ream & Haager Laboratories, Dover; 330-343-3711
 - Summit Environmental Technologies, Cuyahoga Falls; 330-253-8211
- Avoid using your normal water source and consider using bottled water for drinking, cooking, and especially making drinks like baby formula.
- Consider using an alternative source of water when showering (such as a shower bag) since VOCs can become airborne when water sprays from a showerhead.
- If you must drink or cook with your spring or well water, leave it uncovered in a pitcher or bottle overnight before using it to allow VOCs to evaporate. If possible, also vent the air.
- Ventilate rooms where you are using water. Be sure your bathroom is effectively vented with an exhaust fan to pull steam and air out while the water is running, until all water vapor is out of the air. If possible, vent the air in your laundry area and kitchen as well when you use the water.
- Filter your water. There are many options for home water filters, but no filter will remove all possible contaminants. At a minimum, you can filter your tap water for drinking and cooking

with a filtered water pitcher, available at many stores or online. Other devices attach to faucets, fit under the kitchen sinks, or even filter all household water.

- Stop drinking your water if you or someone in your family has stomach pain or discomfort, muscle pains, or other unusual symptoms. Follow up with a trusted health professional as soon as possible.
- If your water burns your skin or causes a rash, take showers and baths somewhere else if you can. See your health professional and call your state environmental protection agency.

Some of the steps you can take for soil contamination include:

- Test your soil, especially in areas where children play, or food is grown.
- Build raised beds to grow any foods you will eat.
- Wear gloves when handling soil.
- Wash fruits and vegetables thoroughly and remove outer leaves before eating.
- Remove shoes upon entering your residence to reduce the spread of contamination.

Additional Resources for Residents

Assistance for evacuated residents

Norfolk Southern Family Assistance Center: (800) 230-7049

To request air monitoring at your home

Residential Re-Entry Request Hotline: (330) 849-3919

Columbiana County Emergency Management Agency: (330) 424-7139

U.S. EPA Information Line: (215) 814-2400

Site Contact: Rachel Bassler, Public Information Officer R5_PIO@epa.gov

For continued updates from EPA, visit https://response.epa.gov/site/site_profile.aspx?site_id=15933