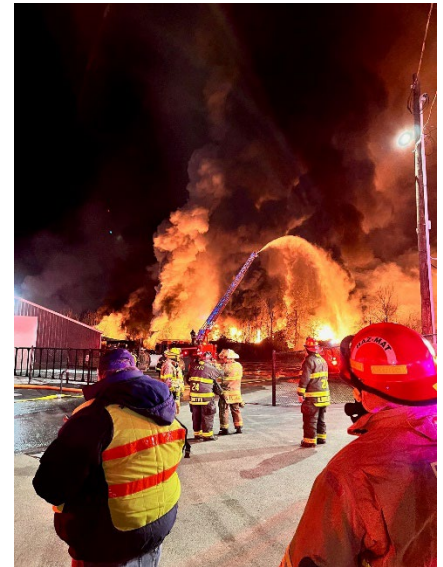


In collaboration with the Pennsylvania Department of Health (PA DOH), the Agency for Toxic Substances and Disease Registry (ATSDR) – a federal public health agency – worked to evaluate the East Palestine, Ohio train derailment’s impact on the health of Pennsylvania’s first responders using its [Assessment of Chemical Exposures \(ACE\)](#) survey tool. Chemicals and combustible byproducts released in the train derailment included smoke and particulate matter, vinyl chloride, phosgene, hydrogen chloride, 2-butoxyethyl acetate, 2-ethylhexyl acrylate, butyl acrylate, methyl acrylate, polyaromatic hydrocarbons, and benzene. First responders shared information about their health, including physical symptoms from exposure related to chemicals, and answered questions about preparedness and training, by completing an ACE survey online via a weblink.

WHO PARTICIPATED IN PENNSYLVANIA’S FIRST RESPONDER ACE SURVEY?

114 Pennsylvania first responders completed the ACE survey between March 5 – March 31, 2023. Most survey respondents were volunteer firefighters (61%), with other roles consisting of government workers (11%), HAZMAT (9%), police officers (9%), and other (4%).



Credit: Beaver County Emergency Services.

WHAT WERE THE MAIN FINDINGS?

Duration, Time, and Place of Response Work:

- 88% reported working within a 1-mile radius of the derailment site between February 3 – February 8, 2023.
- 55% reported working a total of 5 hours or less; 45% reported working more than 5 hours.
- 59% reported conducting most of the response work at the site of the derailment.

Chemical Exposure:

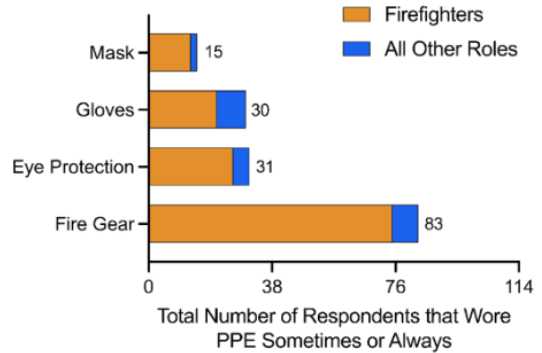
- Most respondents (68%) reported contact with chemicals through inhalation.
- 78% reported contact with smoke, 58% reported contact with vapor/gas, and 33% reported contact with dust.
- 86% reported smelling an odor during response work.
 - Of those who reported smelling an odor, the most frequently reported odor characteristics were described as chemical (78%), smoky (34%), and sweet (27%).

Health Effects:

- 47% reported at least one new or worsening physical or mental health symptom after the derailment and 40% of symptomatic individuals reported two or more symptoms.
- Symptoms most reported were those associated with the ears, nose, and throat (37%), heart and lungs (21%), and eyes (14%).
 - Of those reporting symptoms, 30% had symptoms worsen or return when on site.
 - 69% of those reporting symptoms did not receive healthcare to treat symptoms.

Personal Protective Equipment (PPE) Use:

- 90% of firefighters reported always wearing fire gear.
- 13% of responders reported sometimes or always wearing a mask.



Preparedness to Respond

- 58% reported feeling adequately prepared to respond.
- Most respondents had First Responder Awareness (72%), Proper Use of PPE (72%), and/or First Responder Operations (70%) trainings.
- **Less than one third of respondents reported training in cleaning and decontamination procedures for flammable and combustible materials (31%) and safety procedures during a chemical incident (29%).**

Responder Concerns

The ACE survey also asked first responders to provide information on their specific concerns. The most commonly reported concerns included:

- Chemical exposures while conducting response work and long-term health effects, and
- Poor communication during the initial response.

WHAT SHOULD I DO IF I STILL HAVE SYMPTOMS?

- If you feel that you are experiencing ongoing symptoms related to the incident, call the Pennsylvania Department of Health Hotline at 1-877-PA-HEALTH (**1-877-724-3258**) to connect with a nurse and find appropriate local healthcare services.
- For urgent questions, call the Poison Control Incident Hotline at 1-877-603-0170 (Press #2 for PA residents).
- More information on vinyl chloride and health is [available within a document](#) from the agencies responding to this incident. Additional information on these chemicals and the PA agencies' response to this incident is available within the [PA DOH/PA DEP Frequently Asked Questions document](#). **For additional findings from the PA First Responder ACE survey, view the State Report [Chemical Exposures and Health Outcomes of the East Palestine, Ohio Train Derailment on Pennsylvania First Responders](#)**

ADDITIONAL RESOURCES

- [Pennsylvania Emergency Management Agency Train Derailment Dashboard](#)
- [PA Department of Environmental Protection Dashboard](#)
- [PA's Frequency Asked Questions about the East Palestine Train Derailment](#)
- [PA's Resources for Residents Affected by the East Palestine Train Derailment](#)
- [The Medical Toxicology Outpatient Clinic at UPMC Presbyterian](#)
- [Environmental Protection Agency's \(EPA\) Train Derailment website](#)
- [EPA Performance Assessment for Monitoring of Butyl Acrylate and Vinyl Chloride in Air using PIDs](#)
- [ATSDR 'Are Environmental Odors Toxic' Factsheet](#)
- [ATSDR Vinyl Chloride ToxFAQ](#)
- [ATSDR/CDC's Train Derailment website](#)

If you have any questions, contact the Division of Environmental Health Epidemiology at env.health.concern@pa.gov or by calling 1-877-PA-HEALTH (1-877-724-3258)