



CIRSA HAZARD ALERT

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SAFER TOGETHER

Hazard Alert: Per- and Polyfluoroalkyl Substances (PFAS)



Per- and polyfluoroalkyl substances (PFAS) are synthetic chemicals widely used in industry and consumer products since the 1940s. Known for their resistance to heat, water, and oil, PFAS are found in items like food packaging, nonstick cookware, firefighting foams, water- and stain-resistant textiles, and personal care products such as shampoos, dental floss, and makeup. However, their production and use have led to environmental contamination.

How PFAS Firefighting Foams Work

PFAS-based firefighting foams create a protective “blanket” over liquid fuels, preventing flammable vapors from escaping. This helps extinguish fires and reduce the risk of reignition. These foams are particularly effective for Class B fires, such as aircraft-related incidents, and have been widely used outside of the aviation industry due to their high efficacy. Fluorine-free foams, which do not contain PFAS, use the same approach but are generally less effective.

The Problem with PFAS Firefighting Foams

PFAS firefighting foams, while effective, are linked to harmful health and environmental impacts. PFAS degrade very slowly, accumulating in humans, animals, and ecosystems. Studies associate PFAS exposure with various health risks, including cancer, high cholesterol, changes in liver function, and reduced vaccine effectiveness. These chemicals can also contaminate drinking water and the food supply.

National Actions on PFAS

To address PFAS concerns, several measures have been implemented at the federal level:

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- EPA Strategic Roadmap (2021-2024): Establishes a timeline for policies to safeguard public health, protect the environment, and hold polluters accountable.
- Department of Defense Specifications (2023): Mandates that firefighting foams used on military bases must be PFAS-free while remaining effective against hydrocarbon liquid fuel fires. Researchers are exploring safer alternatives to PFAS-containing foams, including enhancing PFAS-free formulations for military use.
- EPA Regulations (2024): Set legally enforceable Maximum Contaminant Levels (MCLs) for six PFAS chemicals in drinking water and designate perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) as hazardous substances under the Superfund law, aiding cleanup and enforcement efforts.

Colorado's Initiatives

Colorado has also taken proactive measures to combat PFAS pollution:

- 2024 PFAS Action Plan: The action plan focuses on identifying contamination sources, reducing PFAS releases, and safeguarding residents.
- Bans: Starting in 2024, Colorado has banned certain PFAS-containing products.
- Water Protection: The state collaborates with water providers to reduce PFAS levels in drinking water and offers resources for individuals to minimize exposure.
- Certificate of Registration: The state requires entities using or storing PFAS-based firefighting foam to register. This registration requirement extends to municipal fire department facilities and other facilities that store or use PFAS in operations, and registration information is available via the Colorado Department of Public Health and Environment (CDPHE) website.
- Take Back Program: The program pays fire departments and airports to safely store and dispose of unused PFAS firefighting foam.
- PFAS Grant Program: The program provides funding for PFAS sampling in water source and water treatment infrastructure, and emergency assistance to affected communities.
- El Paso County Exposure Assessment: Conducted by the Centers of Disease Control and Prevention (CDC) and Agency for Toxic Substances and Disease Registry (ATSDR), this study assessed PFAS exposure near Peterson Air Force Base.

Information on many of the above-summarized federal and state measures can be found on the websites of the agencies referenced, and in the resources section of this Hazard Alert.

Insurance Coverage

From an insurance perspective, it's important to understand that many insurance policies, including CIRSA's liability coverages for its members, contain specific limitations or exclusions for pollution and PFAS-related claims, which means entities may not be able to rely on standard insurance policies to cover costs associated with PFAS-related claims. Thus, it is all the more critical that any PFAS-related risk exposures are properly managed in accordance with applicable requirements.

Next Steps

To protect public health and the environment and to both manage and mitigate risk exposures related to PFAS, it is critical to phase out PFAS-containing products, adopt safer alternatives, and reduce exposure through informed consumer choices. Colorado's leadership in addressing PFAS pollution offers a model for other states.

If you have any questions about this Hazard Alert, please contact Mark Dano at markd@cirsa.org.

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Per- and Polyfluoroalkyl Substances (PFAS) (cont.)

Sources

- CDPHE PFAS Homepage
: <https://cdphe.colorado.gov/pfas>
- Firefighting Foams: PFAS vs. Fluorine-Free Foams
: <https://www.usfa.fema.gov/blog/firefighting-foams-pfas-vs-fluorine-free-foams/>
- 2024 PFAS Action Plan
: <https://cdphe.test.colorado.gov/water-quality/water-quality-engagement/2024-pfas-action-plan#:~:text=The%20department%20is%20now%20working%20to%20get%20stakeholder,objectives%3A%20Identify%20and%20minimize%20Coloradans%E2%80%99%20exposure%20to%20PFAS>
- Colorado PFAS Projects
: <https://cdphe.colorado.gov/pfas-projects>
- Colorado launches PFAS takeback, emergency grant programs
: <https://watereducationcolorado.org/fresh-water-news/colorado-launches-pfas-takeback-emergency-grant-programs/#/>
- PFAS Strategic Roadmap: EPA's Commitments to Action 2021-2024
: <https://www.epa.gov/pfas/pfas-strategic-roadmap-epas-commitments-action-2021-2024>
- Per- and Polyfluoroalkyl Substances (PFAS) Final PFAS National Primary Drinking Water Regulation
: <https://www.epa.gov/sdwa/and-polyfluoroalkyl-substances-pfas>
- Designation of Perfluorooctanoic Acid (PFOA) and Perfluorooctanesulfonic Acid (PFOS) as CERCLA Hazardous Substances
: <https://www.epa.gov/superfund/designation-perfluorooctanoic-acid-pfoa-and-perfluorooctanesulfonic-acid-pfos-cercla>
- Fire Extinguishing Agent, Fluorine-Free Form (F3) Liquid Concentrate, For Land-Based, Fresh Water Applications
: <https://media.defense.gov/2023/Jan/12/2003144157/-1/-1/1/MILITARY-SPECIFICATION-FOR-FIRE-EXTINGUISHING-AGENT-FLUORINE-FREE-FOAM-F3-LIQUID-CONCENTRATE-FOR-LAND-BASED-FRESH-WATER-APPLICATIONS.PDF>
- Johns Hopkins APL Explores Alternatives to PFAS in Firefighting Foams
: <https://www.jhuapl.edu/news/news-releases/230518b-apl-explores-pfas-free-firefighting-foams>
- PFAS and Your Health
: <https://cdphe.colorado.gov/pfas/pfas-health>