

KEY POINTS

AFFF meeting military specification contains toxic PFAS

- Per- and polyfluoroalkyl substances (PFAS) are present in Aqueous Film Forming Foam (AFFF), used to combat flammable liquid fires and used widely at U.S. military installations. Once thought to be safe, AFFF containing PFAS have been designated an environmental hazard since the 1990s.
- Environmental studies conducted at or near the sites of former military bases led to the discovery of high concentrations of PFAS in groundwater. High PFAS levels are present at over 400 test sites on current and former defense facilities.
- PFAS are extraordinarily persistent and resistant to typical environmental degradation processes. PFAS are often referred to as “forever chemicals,” as they take nearly a century to disappear from the soil and groundwater where they accumulate.

Department of Defense fire fighters face PFAS exposure

- The U.S. Department of Defense is the largest consumer of AFFF in the world. Federal fire departments located at defense facilities where large amounts of flammable liquids are present such as fuel depots, military airfields and homeports for naval vessels heavily rely upon fire suppression capabilities of AFFF.
- Since the initial deployment of toxic AFFF several decades ago, federal fire fighters have been routinely exposed to PFAS-laden AFFF during active fire fighting, stationary equipment malfunctions, fire fighter training events, apparatus checks and maintenance, including replenishment activities.
- Once considered safe, fire fighters regularly handled toxic foam without the use of personal protective

equipment to prevent absorption or inhalation. Because PFAS are bioaccumulative, the toxins remain present in the human body for years following exposure. Repetitive exposures extend the presence of detectable levels of PFAS in the body.

- PFAS-laden AFFF remains in use at defense facilities as the Department of Defense continues extensive testing and research on an acceptable substitute suppression agent, despite the availability of non-toxic fluorine-free alternatives on the open market.

Blood testing will benefit federal fire fighters

- Federal fire fighters currently undergo a blood draw as part of their mandatory annual physical. Testing to detect PFAS in a fire fighter’s blood can easily be added to the testing already conducted on an annual basis. Since the physical and blood draw already occur, this additional testing would be relatively inexpensive, costing approximately \$300 per test for each of the estimated 10,000 civilian fire fighters working for the Department of Defense.
- Testing will provide occupational medicine physicians, responsible for worksite health issues, a valuable tool to follow trends of PFAS levels within the fire fighter community. Occupational health physicians working in concert with an industrial hygienist will be able to establish engineering controls to prevent additional exposures.
- Laboratory test results will allow federal fire fighters and their physicians to better understand potential health implications and symptoms that may be linked to PFAS exposure, providing fire fighters with a useful tool to establish a treatment plan.