



NWCG Equipment Technology Committee/Risk Management Committee

Safety Bulletin: 25-001

7/30/2025

To: Wildland Fire Community

From: Equipment Technology Committee and Risk Management Committee

Subject: Laundering to Decontaminate Wildland Fire Clothing

Issue: The wildland fire environment includes hazardous compounds which can adhere to and contaminate wildland firefighter protective clothing. Current research suggests that common laundering practices can effectively, and greater than previously thought, decontaminate wildland firefighter clothing.

Background: On December 23, 2022, the James M. Inhofe National Defense Authorization Act for Fiscal Year 2023 (P.L. 117-263) was signed into law. Sec. 5305 Fairness for Federal Firefighters states that the cause of certain illnesses and diseases are presumed to be work-related for employees in fire protection activities. The initial list includes, but is not limited to, various cancers. Therefore, it is reasonable to establish best practices to mitigate to the extent possible, firefighter exposure to carcinogens (cancer causing chemicals). Personnel operating in the wildland fire environment risk exposure to hazardous chemicals from smoke, soot, and ash, as well as naturally occurring compounds. Common routes of exposure include inhaling or ingesting these contaminants and direct skin contact possibly through contaminated personal protective equipment (PPE).

Current Situation: Recent research revealed that wildland fire flame-resistant (FR) pants and shirts can be contaminated with chemicals from combustion byproducts, including carcinogens. In addition, lab testing compared the effectiveness of a common front-loading residential grade washing machine to an extractor. Preliminary results demonstrated efficient removal of chemicals (polycyclic aromatic hydrocarbons) from the FR clothing by residential grade washing machines set on hot water. The removal efficiency was the same as with specialized extractors, set at 125 degrees or higher.

Recommendation: Decontaminate wildland fire FR clothing as frequently as possible. Launder clothing in a manner consistent with the manufacturers' wash and care instructions using a residential grade washing machine on the hot water cycle with any commonly available laundry detergent. Tumble dry on medium and promptly remove garments. Contaminated FR clothing should be washed separately from other clothing items to avoid cross contamination. Employers should use best management practices to ensure FR clothing is maintained properly and work to procure or provide access to washing machines that can be used by fire personnel at work to exclusively launder contaminated FR clothing. Firefighters should bring extra sets of FR clothing to wear for assignments, and launder contaminated clothing on a regular basis.

The interagency wildland fire community continues to research hazardous exposures in our workplaces that can result in adverse health outcomes. As new information is learned it will be used to incrementally implement effective mitigations that are supported by scientific research within the logistically challenging wildland fire environment.

Frequently Asked Questions (FAQ) about this new information and how to implement recommendations can be found here: <https://www.nwcg.gov/committee/equipment-technology-committee>.