

# PROFESSIONAL FIRE FIGHTERS OF MARYLAND



February 2, 2022

Senator Paul Pinsky, Chair  
Senate Educational, Health & Environmental Affairs Committee  
2 West, Senate Miller Office Building  
Annapolis, Maryland 21401

**Testimony Concerning SB 273, an Act concerning – Environment –PFAS Chemicals – Prohibitions and Requirements (George “Walter” Taylor Act).**

**Submitted to the Educational, Health & Environmental Affairs Committee**

**Position: Support**

On behalf of the International Association of Fire Fighters (IAFF), we submit this testimony in reference to Maryland Senate Bill 273, introduced by Senator Elfreth, Senator Beidle, Senator Lam, and Senator Bailey, An Act concerning – Environment –PFAS Chemicals – Prohibitions and Requirements (George “Walter” Taylor Act).

The IAFF is an international union that represents over 326,000 professional fire fighters and emergency medical personnel in the United States and Canada and for over 100 years have been actively involved in improving the health and safety of fire fighters; a highly important activity for a workplace in which fatalities and early retirement due to work-related injuries and illnesses occur regularly. The IAFF is dedicated to reducing the number of occupational cancer occurrences in fire fighters.

We are pleased that the Maryland Senate Educational, Health & Environmental Affairs Committee is considering legislation to regulate fluorinated firefighting foam by banning the use, sale, and distribution of PFAS foams in Maryland, limiting fluorinated foam use and banning use in testing and training, and requiring the labeling of fire fighter personal protective equipment that contains PFAS chemicals. SB 273 takes important steps to help lower fire fighter exposure to harmful PFAS chemicals.

Once thought to be safe, we now know PFAS to be toxic. The Environmental Protection Agency has determined there is no safe level of PFAS within the human body. When PFAS enter the body, a single exposure can remain in the body for years after even if there are no additional exposures. The half- life of these chemicals ranges from 2- 9 years. The long half-life means that

chemicals can remain in the body and build up to concentrations that may cause various negative health effects as a result of exposure.

The American Cancer Society has determined that fluorinated chemicals are linked to forms of kidney, prostate, thyroid, bladder, and testicular cancers. The International Agency for Research on Cancer (IARC), classifies PFOA as group 2B – possibly carcinogenic to humans based on limited evidence of carcinogenicity in humans and limited evidence in lab animals. These Perfluorooctane Sulfonate (PFOS) and Perfluorooctanoic Acid (PFAS), are identified as hazardous to humans, are currently in use in Class – B firefighting foams.

Individuals are exposed to PFAS released into the air, water, and soil in areas where they are manufactured, stored, or used. Following their initial release, PFAS can be transported to other areas through windy conditions, movement of groundwater, flooding, or even food production. With their persistence in the environment, concentrations of PFAS accumulate in people, wildlife, food sources, soil, and drinking water. Most regularly, humans are exposed to PFAS through the ingestion of contaminated water or food. However, through exposure from PFAS-laden firefighting foam and personal protective equipment, fire fighters are repeatedly exposed to PFAS chemicals through inhalation and absorption through the skin.

Due in large part to fire fighters' increased exposure to toxic chemicals, including PFAS, cancer is the largest health issue facing the firefighting profession. Fire fighters dying from occupational-related cancers now account for more than 70 percent of the line-of-duty deaths each year.

The State of Maryland recognizes the health hazards that these chemicals pose to fire fighters. In 2017, the state passed into law a workers' compensation benefit for fire fighters that presumes leukemia, prostate, rectal, throat, multiple myeloma, non-Hodgkin's lymphoma, brain, testicular, or breast cancer are occupationally related. In 2019, those provisions were expanded to include bladder, kidney, and renal cell cancers when Governor Larry Hogan signed into law HB 595. These added cancers have been linked to PFAS exposure in several health studies.

Banning the use, sale, and distribution of PFAS foams is achievable, and would protect Maryland's fire fighters and the environment from unnecessary toxic PFAS exposure. While PFAS-laden foams and PFAS-free foams do not perform identically to each other, application tactics can be adjusted to ensure non-PFAS foams are similarly effective at fire suppression in the same way that PFAS-laden foams suppress. Since alternative PFAS-free foams are already on the market used across the United States for firefighting activities and in use in other countries that have outright banned PFAS-laden foams, banning the use of PFAS-laden foams for training and testing makes sense to limit PFAS exposure to fire fighters and the environment.

Knowing how toxic these foams are, and that there are effective alternatives on the market, a ban on PFAS foams is a commonsense solution to protect the health of fire fighters. Numerous other states have passed legislation to ban the use of PFAS foam outright. In December 2020, as part of the National Defense Authorization Act, Congress mandated the military phase out the use of PFAS-laden foams by 2024. Further, the federal government recently allowed airports to voluntarily opt out of using PFAS foams via the Federal Aviation Administration

Reauthorization Act of 2018. SB 273 is consistent with federal legislation and would bring Maryland to the safer and higher standards that other states have been able to achieve.

Fire fighters are also regularly exposed to toxic PFAS chemicals in their personal protective equipment (PPE). PFAS have been found to migrate while wearing the PPE and expose the fire fighter to these carcinogens. A recent study by Muensterman et al. (2021)<sup>1</sup> identified that in gear from 2008 and 2019, that all three layers of fire fighter turnout gear (outer layer, moisture barrier, and thermal layers) yielded measured concentrations of volatile and nonvolatile PFASs. In particular, the moisture barrier layer, a PTFE film, gave the highest individual nonvolatile (0.159 mg F/kg) and volatile PFAS (20.7 mg F/kg) as well as total fluorine (122,000 mg F/kg) concentrations. The outer and thermal layers comprised of aromatic polyamide-based fibers (aramid) treated with side-chain fluoropolymers had lower levels of individual nonvolatile and volatile PFASs. The IAFF is deeply concerned that the presence of any PFAS in PPE forces fire fighters to be exposed to carcinogens many times per shift.

PFAS-free PPE currently is undergoing testing and design, but is not yet available as a replacement for current PPE. Since there is no suitable substitute for PFAS-laden PPE, the labelling of gear and PPE is necessary. Until we can replace PFAS-laded PPE with safer alternatives, it is it critical to track when and where PFAS exposure occurs. This information will be essential to the health and safety of fire fighters. SB 273 requires that sellers and purchasers be notified and maintain records of gear and PPE that contain toxic PFAS.

Additionally, SB 273 bans the use of PFAS chemicals in food package, rugs, and carpets. While not directly linked to the fire service there is the concern that these consumer products are found in house fires and may be an additional exposure to fire fighters, therefore the IAFF supports any effort to ban or limit PFAS in these categories as well. Repeated exposure causes accumulation in the body, therefore any effort to decrease exposure to PFAS or ban their use is a positive step toward keeping the public and fire fighters safe. We support and believe Senate Bill 273 will help lessen the exposure of fire fighters to PFAS and better safeguard their health.

Thank you for your attention to this critical piece of legislation and the health impact of PFAS on fire fighters in our state.

Sincerely,



Jeffrey Buddle, President  
Professional Fire Fighters of Maryland

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<sup>1</sup> Muensterman, Derek & Titaley, Ivan & Peaslee, Graham & Minc, Leah & Cahuas, Liliana & Rodowa, Alix & Horiuchi, Yuki & Yamane, Shogo & Fouquet, Thierry & Kissel, John & Carignan, Courtney & Field, Jennifer. (2021). Disposition of Fluorine on New Firefighter Turnout Gear. *Environmental Science & Technology*. 56. 10.1021/acs.est.1c06322.