

# WHAT ARE PFAS?



PFAS (per- and poly-fluoroalkyl substances) are a man-made class of thousands of 'forever chemicals' that do not break down in the environment, are highly mobile, and can accumulate in the body and cause disease. Firefighters are a particularly vulnerable population to these chemicals due to their levels of occupational exposure. There are many potential exposure pathways for these chemicals and associated health impacts, all of which will be outlined in the coming sections.



## 01 — Human-Made, Largely Unregulated Group of Chemicals

According to the EPA Comptox data-base, there are over 12,000 different types of PFAS chemicals and 98% of people have PFAS in their blood (EPA). These 'forever chemicals' have been around for nearly 70 years and have yet to be adequately monitored and regulated. Some large companies knew of their toxicity early in production, but did not disclose that information. A small number of commonly used PFAS were phased out but many others are in use. Those currently in use have not been shown to be safe, an unfortunately common occurrence that reflects deficiencies in our federal chemical policy legislation & enforcement.



## 02 — Ubiquitous in Consumer Goods

PFAS have been used to make non-stick, grease resistant, stain resistant, flame retardant, water-proofing materials. They have been incorporated into hundreds of consumer markets, as outlined in the 'Exposure' section of this packet. Notably, high levels of PFAS have been found in firefighting gear, consumer products, food sources, and contaminated drinking water.



## 03 — Health Impacts

Suppressed immune function, lower vaccine efficacy, thyroid disease, testicular and kidney cancers, elevated cholesterol, liver effects, impaired fertility, and ulcerative colitis are all potential health effects that have been associated with elevated levels of PFAS in the body. These chemicals contribute to a wide array of health conditions, requiring additional health monitoring, particularly for vulnerable or occupationally exposed demographics.



## 04 — Lack of Regulation

PFAS production, use, and levels in drinking water are not federally regulated. Only a handful of states have passed regulatory standards for PFAS in drinking water, but most PFAS remain unregulated and will continue to be unless a class-based and essential use regulatory approach is adopted. PFAS are also not regulated in workplaces or as hazardous waste, which allows for continued exposures and discharges into the environment.